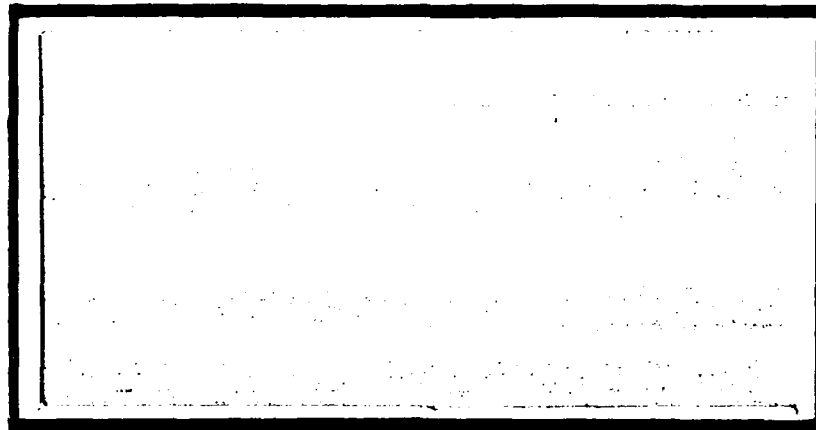


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CONTRACTING AND PURCHASING MANAGEMENT
IN THE INTERNATIONAL MARKETPLACE

THESIS

Samuel A. Arroyo
Captain, USAF

AFIT/GCM/LSY/89S-1

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AFIT/GCM/LSY/89S-1

CONTRACTING AND PURCHASING MANAGEMENT
IN THE INTERNATIONAL MARKETPLACE

THESIS

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology
Air University
in Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Contracting Management

Samuel A. Arroyo, B.S.

Captain, USAF

September 1989

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Acknowledgements

I would like to thank my thesis advisor, Lt. Col. Curtis Cook, for his guidance throughout the thesis process. I would also like to thank Major Michael Farr and Dr. Craig Brandt for their instruction on various aspects of the international defense environment. Finally, a special thanks to my wife, Alexis, for her love and support throughout the AFIT year.



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Abstract

→ As contracting and purchasing management professionals enter the 1990's, they find the marketplace for defense related and commercial products to be international. Consequently, the purpose of this research is to provide those professionals with an informative and consolidated text on the international dimension of those professions.

First, this ^{THESIS} ~~research~~ examines the acquisition of foreign products by the commercial sector of industry. The reasons, problems, benefits, methods, and issues in purchasing internationally are addressed. The research then examines the marketplace for defense related products. While security assistance programs, such as Foreign Military Sales have characterized the U.S.'s international involvement in the past, there is a growing trend toward armaments cooperation with allies. Accordingly, this research focuses on international armaments cooperation. In addition, the issues of offsets, technology transfer, and concerns for the defense industrial base are addressed, since they pervade the literature on international defense programs. Cultural and negotiation considerations, inherent to Governments and companies in the defense or commercial sector, are also examined. (KR)

CONTRACTING AND PURCHASING MANAGEMENT IN THE INTERNATIONAL MARKETPLACE

I. INTRODUCTION

The International Marketplace

As contracting and purchasing professionals enter the 1990's, they find the marketplace for defense related and commercial products to be international. A recent study examining the internationalization of the aerospace industry, both commercial and defense sectors, declares that:

For this industry, the marketplace has changed and there is no going back. Success for most aerospace companies requires more attention to world markets and to means of better serving those markets. This is increasingly true for other industries as well. (76:5)

In the commercial sector, the days are gone when U.S. industry could afford to operate in an isolated domestic market. Peter Drucker, author of many modern management books, in a recent interview was asked 'Apart from heads of multinationals, how much should the average CEO worry about the transnational economy? Isn't the domestic market still most companies' bread and butter?' Drucker replied:

The other day I read a nice quote by a distinguished economist who said that in five years there will be only two kinds of economist - those who think in terms of a world economy and

those who are unemployed. The same is true of CEO's, even of small companies. If you don't think globally, you deserve to be unemployed and you will be. (60:50)

Today, a healthy industry is one that takes advantage of the global market (25:XV). However, excess manufacturing capacity exists worldwide in many industries, primarily due to the industrial recovery of economically damaged nations from World War II. This "overcapacity" has created intense competition in the global marketplace (76:5). Strong foreign competition for global markets in low and high technological areas has made the future strength of U.S. competitiveness in the international marketplace a major national focus by leaders in government, industry, and academia (114:3). Driven by the need to stay competitive in the global marketplace, a current trend for many U.S. companies is to form business alliances with foreigners. International alliances are said to help achieve economies of scale, lower costs and risks in product development, and increase and maintain market share (71:66-67). In the aerospace industry, international joint ventures are described as a "fixture of the aerospace marketplace" (76:5).

A similar orientation by the defense industry exists toward the international market. Jacques Gansler in his book entitled "The Defense Industry" explains that since the early 1970's, there has been a trend in the reliance on foreign markets via Foreign Military Sales (FMS) in order to

sustain U.S defense industrial base capacity. FMS have always been lucrative sales for the defense industry and have resulted in unbreakable ties with the foreign market (48:204-207). However, similar to the commercial sector, competition for global markets is stronger than ever before. Consequently, "overcapacity" also exists worldwide in the production of defense products due to the development of foreign defense industries (76:5). The U.S. defense industry's health and ability to compete is also a major focus in the Department of Defense (DoD), as outlined in former Defense Undersecretary for Acquisition, Dr. Robert Costello's 1988 report entitled "Bolstering Defense Industrial Competitiveness" and congressional testimony of 1987 (84:91).

Similar to the joint ventures which are taking place in the commercial sector, future participation by industry in the international marketplace for defense products means increased international teaming arrangements (76:68). According to a recent journal article, a General Dynamics study explains how changes in the U.S. defense industry/DoD relationship will continue to result in increased international cooperation. The study identifies a strategy of international teaming arrangements as a necessary way of dealing with a more competitive market (101:32).

In addition, Governments now faced with a defense industry closely tied to a competitive world market,

decreasing defense budgets, and the necessity to improve allied defense by reducing duplication of effort between allies have increasingly turned to international armaments cooperation for defense products (76:51-52). Dr. Costello states that the DoD is committed to 'enhancing U.S. and Allied market access' (26:70). Thomas Callaghan, a noted writer, lecturer, and consultant on Allied and American armaments cooperation, points out that the U.S. domestic market is too small to provide affordable weapons production and increased armaments cooperation is not only necessary economically, but for the collective defense of NATO, and maintaining the U.S defense industrial base (17:61).

Callaghan states:

The size of a market determines the price of the product, military or commercial. For centuries commercial economics and trade have been moving towards larger markets, providing economies of scale and ever more affordable prices. Defense economics has bucked this trend with ever-larger product lines, small national markets and consequently higher prices. (18:29)

The widespread escalation of commercial industry's involvement in international purchasing can be traced back to the early 1970's; however, most of the increase has accrued in the 1980's (29:225). Some companies, such as Schwinn Bicycle Company, have been involved in international purchasing for the past 30 years and characterize their involvement as follows: 'Foreign buying is perhaps as basic as a make-or-buy decision' (85:331). As the marketplace for commercial products continues to be international,

businesses will increasingly be involved in international purchasing in order to remain competitive. In addition, the increased global activity of U.S. companies will cause increases in international purchasing (86:2). One business executive describes international purchasing in the following terms: "It is a strategic activity that we feel is necessary to continue the purchasing profitability for the company" (129:1).

In the defense sector, more than market forces drive industry into international involvement. International armaments cooperation by Governments and defense industries between nations is driven by a combination of political, economic, and military reasons (13). The benefits of cooperation make it clear that the trend toward international involvement will continue (76:51). A recent article by Dr. Costello details why International Armaments Cooperation is here to stay. Armaments Cooperation between allies allows the U.S. to benefit from "world class technology," promotes commonality and interoperability of weapons, achieves economies of scale, reduces duplication of resources, incentivizes burdensharing of defense costs, and maintains U.S. defense industry competitiveness (26:70-72). There has been a history of legislative support for armaments cooperation since 1977 (79:2-2,2-8). Past research examining the trend in the actual use of international cooperative projects concludes that "Growth

has been rapid ... a high level of interest appears to continue ... and such programs do not appear to be a passing fancy' (41:24).

Thesis Overview

Clearly, purchasing and contracting professionals must increase their involvement in the international marketplace. Consequently, this thesis will provide an informative and consolidated text on the international dimension of purchasing and contracting. However, the primary emphasis is on contracting within the DoD and U.S. defense industry. Purchasing within the commercial sector is addressed as an attempt to broaden the scope of this text into a total picture of acquiring commercial and defense products and material in the international marketplace. Although public and private sector purchasing are significantly different, there are similarities (109:7). Consequently, examining both public and private purchasing in the context of the international marketplace may prove to be of benefit to the reader.

This thesis will examine the topic from three perspectives: First, companies acquiring commercial products overseas will be examined; second, defense companies' acquisition activity in the international marketplace; and finally, the Government's activity in the acquisition of foreign products. Defense companies' and government's involvement in the international marketplace

will be discussed in the context of armaments cooperation, U.S. defense industrial base concerns, technology transfer, and offsets. In addition, the topic of cultural and negotiation considerations will be explored, since these topics are crucial to success in the international marketplace. An overview of the chapters and topics addressed in the body of this text, along with pertinent definitions, is presented below.

Chapter 2- International Purchasing. The purchasing function has received increasingly more responsibility for the profitability and survivability of the firm. This greater responsibility, in large part, is due to the dynamic worldwide economy in which companies operate (59:17-25). Chapter 2 provides a presentation on international purchasing performed by companies in the commercial sector. Topics to be covered include the reasons for purchasing internationally; difficulties in purchasing internationally; direct versus indirect purchasing methods; banking and currency concerns; customs considerations; and countertrade.

Chapter 3- International Armaments Cooperation. This chapter discusses international armaments cooperation with U.S. allies. The benefits and difficulties experienced by Government and industry are addressed. In addition, the history and future of armaments cooperation and approaches taken to armaments cooperation are presented.

International armaments cooperation is defined in the broad sense as, '... the attempts to harmonize our development and acquisition of weapon systems with those of our allies ...' (12:8). Callaghan, in a report prepared for the DoD in August 1988 entitled 'Pooling Allied and American Resources to Produce A Credible, Collective Conventional Deterrent,' refers to armaments cooperation in terms of pooling resources (16:161). Pooling resources is defined as 'coordinated and complementary (but non-duplicative) investment in weapons and equipment research, development, production and support' (16:V).

The Defense Systems Management College (DSMC), through its Multinational Program Management Course, International Defense Education Arrangement with other nations' educational institutions, and the Advanced International Management Workshop (AIMW), is a leader in providing training to those personnel in positions that influence International Defense Programs (72:39-41). Mr. Richard Kwatnoski, Director of the AIMW, explains that:

International Armaments Cooperation is not a specific program per se, but a collection of programs and cooperative concepts/approaches taking many forms. (72:38)

The DSMC Guide for the Management of Multinational Programs identifies numerous forms or approaches to international armaments cooperation, such as: codevelopment, coproduction, licensed production, opening defense markets, family of weapons, and packages. These are defined as follows:

Codevelopment. This is a program based on a government-to-government agreement in which the industries of two or more countries take part in the development of a weapon system or item of equipment for which participating countries share the cost. (79:2-10)

Coproduction. This is a program based on a government-to-government agreement in which the industries of two or more countries take part in the production of a weapon system or item of equipment that is being acquired by all of them. (79:2-10)

Licensed Production. Licensed production can be considered to be a subset of coproduction (79: 2-10). Licensed production is a term used to indicate production by a nondeveloping source that is specifically authorized by a license from, or granted by, the developing source or other party with disposable rights to the requisite intellectual property. (79:2-20)

Opening Defense Markets. A reciprocal MOU (Memorandum of Understanding) forms the basis of this approach. In essence, each country looks at it's requirements and products to satisfy their requirements. If an acceptable match is found between requirement and equipment, then the needed item is acquired from the source. (79:2-11)

Family of Weapons. This involves creation of families of weapons for systems not developed. Under this concept participating nations would reach early agreement on the responsibility for developing complementary weapon systems in a mission area. The approach is to examine the weapons that nations plan to develop in the next few years, aggregate these weapons by mission area, and then coordinate the development of equipment when feasible. (79:2-11)

Packages. A variety of the arms collaboration approaches may be used in this approach. Packaging is done by government-to-government, industry-to-industry, and industry-to-government agreements. In essence, each party to the acquisition shares in a piece of the economical pie through packaging, thus avoiding any offset requests. (79:2-11)

It should be noted that the literature on international armaments cooperation contains inconsistent uses of names and definitions of cooperation methods, as well as different terminology for international armaments cooperation. Some call it collaboration, some refer to it as rationalization, while to others it is known as the "two-way street." Whatever the name, the concept of governments and industries cooperating in developing and producing weapons is the same.

Chapter 4- Offsets/Countertrade. This section discusses the increasing use of offsets in the international market for defense-related products and their impact on the U.S. defense industrial base. Although there are many different terms in the literature to describe offsets, the definitions used in this text are consistent with the DSMC Guide for the Management of Multinational Programs and the Office of Management and Budget (OMB) report to Congress entitled "Offsets in Military Exports."

"Offsets" is a generic term defined as follows:

Refers to a usage of industrial and commercial compensation practices required as a condition of sale for military related exports, i.e., either Foreign Military Sales (FMS) or commercial sales of defense articles and defense services, as defined by the Arms Export Control Act (AECA) and the International Traffic in Arms Regulations (ITARs). (79:7-1)

Offsets can either be direct or indirect. Direct Offsets are "contractual agreements that involve goods and services addressed in the sales agreement for military exports,"

while indirect offsets "... involve goods or services unrelated to the exports referenced in the sales agreement" (94:4). There are numerous types of offset arrangements. Direct offset arrangements generally include coproduction, licensed production, subcontractor production, overseas investment, and technology transfer, as defined as follows:

Coproduction. Overseas production based upon government-to-government agreement that permits a foreign government(s) or producer(s) to acquire the technical information to manufacture all or part of a U.S. origin defense article. It includes government-to-government- licensed production. It excludes licensed production based upon direct commercial arrangements by U.S manufacturers. (94:3)

Licensed Production. Overseas production of a U.S. origin defense article based upon the transfer of technical information under direct commercial arrangements between a U.S. manufacturers. (94:3)

Subcontractor Production. Overseas production of a part or component of a U.S. origin defense article. The subcontract does not necessarily involve licence of technical information and is usually a direct commercial arrangement between the U.S. manufacturer and a foreign producer. (94:3-4)

Overseas Investment. Investment arising from the offset agreement, taking the form of capital invested to establish or expand a subsidiary or joint venture in the foreign country. (94:4)

Technology Transfer. Transfer of technology that occurs as a result of an offset agreement and that may take the form of research and development conducted abroad, technical assistance provided to the subsidiary or joint venture of overseas investment, or other activities under commercial arrangement between the U.S. manufacturer and a foreign entity. (94:4)

It should be noted that although coproduction can result from an offset, coproduction, in the current U.S Government administrative practice, is also an armaments cooperation approach between Governments (94:4).

Indirect offsets generally include various types of commercial countertrade arrangements (94:4). The term countertrade is an offset largely referred to in literature involving commercial products, which is addressed in Chapter 3. Regardless, countertrade is defined as 'the reciprocal purchase of civil or defense goods or services from a foreign entity as a condition of sale of military related exports' (79:7-2). The major mechanisms of countertrade include the following:

Barter. A one-time transaction only, bound under a single contract that specifies the exchange of selected goods and services for another of equivalent value. (94:4)

Counter-purchase. An agreement by the initial exporter to buy (or to find a buyer for) a specific value of goods (often stated as a percentage of the value of the original export) from the original importer during a specified period of time. (94:4)

Compensation (or buy-back). An agreement by the original exporter to accept as full or partial repayment products derived from the original exported product (94:4).

Another method of countertrade is the switch transaction, which is defined as the use of 'at least one third party outside the country requiring countertrade to complete the countertrade leg of the transaction' (93:3-4).

Chapter 5- Defense Industrial Base Concerns. This section describes the state of the U.S. defense industrial base. The impact of surge/mobilization requirements on U.S. industry, foreign technology dependence, and competitiveness of the general industrial base are examined. In addition, the conflict between international armaments cooperation and the health of the defense industrial base is discussed.

Chapter 6- Technology Transfer. This section examines the U.S.'s attempts to control and secure technology in an increasingly intertwined international defense market. Specifically, defense related technology security, export controls, and the considerations of technology transfer in international armaments cooperation will be discussed.

Chapter 7- Cultural/Negotiation Considerations. Cultural and language differences are inherent in most international business dealings. Consequently, recognition of differences and the ability to deal with them effectively is crucial to the success of any project. Since culture, language and attitudes affect private industry as well as Government matters, the topic will be covered separately in this chapter. This topic is integral to every part of this text. In addition, the impact of culture and language differences in negotiation will be emphasized, since negotiation is the primary vehicle that contracting and purchasing managers use to obtain goods and services.

Research Problem

Contracting professionals seeking knowledge on defense acquisition need information on all aspects of acquisition and contracting. In order to meet this need for information, the National Contract Management Association (NCMA) has developed an Education and Program Structure outlining the body of knowledge required to be a professional in contract management. The NCMA is collecting a set of comprehensive training material designed to teach all aspects of the body of knowledge of contract management. The NCMA has identified the topic of "International Contracting and Purchasing" as an area for which accessible and consolidated training material needs to be developed, particularly documentation intended for those personnel without prior or significant knowledge of the topic (98).

For the past 30 years, the NCMA has been the primary professional organization involved in the professional growth and educational advancement of over 23,000 private and public members engaged in the management of public contracts (90:2-3).

Research Objective

The objective of this research is to provide an educational and informative text on international contracting and purchasing management for those personnel

seeking a comprehensive and basic view of this growing segment of the contracting and purchasing professions.

Investigative Questions

The following questions will be used as a guide to obtain information from the literature on contracting and purchasing in the international environment:

1. What knowledge about the international marketplace is important to contracting and purchasing management professionals?
2. What are the issues involved in industrial purchasing from foreign sources for commercial industry?
3. What are the issues involved in international armaments cooperation, offsets, technology transfer, and the defense industrial base for the government and defense industry?

Scope of the Research

In order to provide an educational and informative text which is useful to personnel without prior or significant knowledge of international contracting and purchasing, the content of the research study must be as broad and comprehensive as possible. However, the time constraint of the master's program limits the coverage of this subject. Consequently, specific topics are covered so that a contracting and purchasing professional with average experience and knowledge of domestic contracting and purchasing can gain a basic understanding and appreciation

for the international contracting and purchasing environment.

Since the bulk of international armaments cooperation activity is concerned with nations of the North Atlantic Treaty Organization (NATO), the primary focus of the study is on NATO, although discussion of issues within the text may pertain to both NATO and non-NATO countries. This study attempts to utilize an objective and broad point of view which includes a perspective of the U.S. defense industry, DoD, and foreign governments and companies. Finally, all data used in this study is unclassified and unlimited in distribution, since this allows for increased accessibility of this text and a larger audience.

Assumptions

It is assumed that the reader has a working knowledge and experience in the domestic contracting and purchasing process, and that he/she is familiar and understands the terms, concepts and theories relating to domestic contracting and purchasing.

Methodology

Since there is a lack of consolidated and accessible data available to contracting personnel on contracting and purchasing in the international environment, this thesis provides an exploratory study of the subject. The historical method of exploration is used, including a

comprehensive literature review for secondary data. The historical method involves defining the problem, collecting data, and evaluating and merging the data into a realistic portrayal of the topic (11:261).

An extensive period of data collection is critical to meeting the objective of this thesis. Consequently, information was obtained by accomplishing a computerized literature search through DTIC, DIALOG, and DLSIE services. Also, a manual search through business and military indexes was accomplished under the topic of international armaments cooperation. In addition, any related topics, such as technology transfer; NATO; Foreign Military Sales; industrial base; international purchasing and contracting; joint ventures; Rationalization, Standardization, and Interoperability (RSI); countertrade; negotiation; and culture, were also searched.

Since this thesis is qualitative and not quantitative in nature and the purpose is to inform based on published data, a statistical method of analyzing the data will not be used. The use of summarizing, quoting, and paraphrasing is used to incorporate information into the text.

II. International Purchasing

Historically, U.S. businesses never really needed to operate in the international marketplace. The vastness of the American market allowed U.S. businesses to prosper domestically (131:57). However, much of the current business and economic literature clearly emphasizes that today's market is global and not just national. Business executives point out that 'essentially we see the world as one market' (50:49).

In general, there has been a globalization of the U.S. economy, which is evident by the increased use of world resources by U.S. companies in their operations (50:46). Globalization of the economy means U.S. companies must utilize a worldwide supplier base. In addition, competition is fierce in the global market and foreigners have made the domestic market intensely competitive. Consequently, the need to stay competitive in the international marketplace is the primary force behind the movement to purchase internationally (74:112). Such things as lower costs, expanding the quantity of sources, quality improvements, access to technology, capacity and availability improvements, meeting offset agreements, and reducing lead times are other benefits of international purchasing (86:7).

International purchasing provides U.S. companies opportunities to expand markets. Since in today's offset

environment and globalized economy, selling there requires buying there (129:1-3). In addition, international purchasing can be used as a bargaining chip to get better price, delivery, and quality from domestic manufacturers (29:24). Accordingly, U.S. manufacturers responding to global competition have made their own product and cost improvements. This in combination with the lower dollar value and the Just-In-Time inventory and manufacturing strategy have led to the return of previously lost business back to many U.S. suppliers (37:57).

Buyers in fulfilling their mission of best quality and price must utilize international purchasing (29:24). A survey conducted by the National Association of Purchasing Management (NAPM) in 1987 found that over 71% of the responding purchasing managers were doing some degree of buying internationally. Also, the survey showed that over 70% of the respondents had increased their overseas purchase volume. Although overall activity in the international market was considered moderate, characterized by an average of 13% of all buys as foreign, there was an overwhelming consensus that international purchasing was expected to continue growing. One respondent was quoted as saying "Our responsibility is to buy the best product at the best price. Our marketplace must be global and the U.S. must be prepared to compete" (37:52-53).

As consumers, imports are seen in the daily lives of most people, whether it is German automobiles, Japanese electronics, or Italian clothes. But, what is it that American Industry is buying? According to the NAPM 1987 Survey, finished goods led the list followed in order by machinery/equipment for in-house use, sub-assemblies, electrical components, ferrous/non-ferrous metals, mechanical components, chemicals and plastic resins, plastic components, glass and textiles, and lastly ores and minerals (37:54-55). The NAPM survey found that Japan, the European Common Market, Taiwan, Canada, and Asia led the list as suppliers. Taiwan was identified as the fastest growing supplier (37:56). Over the last few years, Japan's dominance of the U.S. imports has decreased due to the rising value of the yen and competition from Korea and Taiwan (29:27-28).

Reasons for Purchasing Internationally

The change in the marketplace from national to global, the need to stay competitive, and the benefits of foreign buys have been identified as overall forces in driving firms to purchase abroad. However, this section will examine the reasons why individual firms purchase internationally.

Research investigating why firms buy internationally consistently finds superior technology, and better price, quality, availability, and delivery of products among the major reasons for foreign buying (37:54, 86:3).

Getting the best price is the number one reason to buy internationally (37:54). Better prices or cost reduction is the most logical response in today's more competitive market (74:113). In fact, companies typically grade purchasing departments and managers by their cost reduction performance (30:82). It is important to note that pricing can also include company pricing policies, such as short-term versus long-term pricing arrangements. Companies tend to prefer a price at the time of order rather than at the time of shipment because a stable price allows for better planning. Other pricing policies such as the size of minimum quantity orders and refusal to give discounts affect purchasing decisions. In the steel industry, it was the better pricing terms and conditions that helped push U.S. customers to foreign producers (70:24-25). One other point to consider when dealing in the international market is that low price quotes from foreign sources may not necessarily cost the least as compared to a domestic buy. There are many hidden cost associated with foreign buys, such as travel costs, customs duties, foreign exchange rate fluctuations, transportation delays, and communications problems (21:15).

There are other reasons, besides price, causing purchasers to buy internationally. Those other reasons have to do with value. Like most consumers, industrial buyers want to get the most value for the money. Value is a judgement made through a subjective process including a

combination of considerations (29:26). Quality is the next biggest consideration (37:54). Better quality means improved products. If a company does not strive to improve and maintain their product quality, competition eventually will takeover that company's market (74:113).

The possibility of acquiring improved or advanced technology or products not available in the U.S. drives many companies into the international arena (29:29). "The U.S. is not the technological leader in everything anymore!" (129:1-3). The U.S. National Academy of Engineering, as detailed in the following quote, explains that the U.S.'s leadership in technology has decreased since 1976 and advanced foreign technology in various industries is growing.

Many nations have developed centers of technological excellence, and the quantity of inventive activity outside the United States continues to grow in absolute and proportional terms. Sixty-two percent of all research publications in engineering and technology now originate outside the United States, compared to 58 percent 10 years ago. Newly industrialized areas such as South Korea, Taiwan, and Brazil are attaining higher levels of competence for technical development as well as production. Japan, already a leader in world industry, continues on an extremely dynamic course in engineering and technology. (89:4)

In addition, availability of products forces U.S. companies into the global market. A raw material may be only available from a particular country or region of the world. For example, most of the world, including the U.S., depends on Canada for nickel. Also, some domestic suppliers

may not produce or sell a product because it is no longer economically feasible (85:332).

Difficulties in International Purchasing

Nationalism. Nationalism is one of the most significant barriers to international purchasing (86:8). Buying offshore is emotional and viewed by many as unpatriotic (28:28). "The 'Buy American' or 'Buy British' types of campaigns which appear and reappear in various countries are evidence of the importance of emotion in the buying decision process" (28:28). However, the industrial buyer needs to remain impartial in the pursuit of the best product at the best price (28:28).

A research study was conducted to determine the attitude of U.S. buyers toward foreigners and how this attitude affected their foreign sourcing decisions. A continuum of worldmindedness, which ranged from national to international, was used to describe buyer's attitudes toward foreign countries. Worldmindedness means "propensity of tolerance toward foreigners" (27:24). The study found those buyers who were international on the worldmindedness scale would be more willing than nationalistic buyers to buy from foreign sources. It was acknowledged that worldmindedness is only one among many factors that make buyers decide to purchase internationally. The implication for companies is that purchasing departments that rate low on the worldmindedness scale may miss opportunities in the global

market (27:23-26). In addition, research has found that bias and stereotypes exist against products from different foreign countries. Research indicates that a product's country of origin matters in buying decisions. Buyers prefer to purchase from countries that have a high level of economic development and political freedom. Consequently, companies may miss opportunities in less developed markets (28:28-31).

The effect of nationalism on a company's purchasing effectiveness in the global marketplace is hard to quantify. As previously discussed, the damage seems to come in the form of missed opportunities. The key to effectiveness in the international marketplace is to promote a globalized perspective within the company (30:87). Key steps to implementing effective international purchasing relate to the familiarization of the international perspective within the company. Those steps are developing top management backing, training and exposing buyers via education and experience, foreign travel and job rotation, and promoting international success stories within the company. Success stories are particularly important because they develop confidence in foreign buys. In addition, companies can establish foreign buying offices or utilize other information sources to keep abreast of global opportunities (86:8).

Logistics/Inventory/Distance. Logistics, inventory, and distance problems are also at the top of the list of significant barriers to international purchasing (86:8). The distance between a U.S. based manufacturer and a foreign supplier may cause delivery problems due to the increased time needed in transportation. A foreign supplier may not be able to adjust quickly to changes in the buyer's demand or may have trouble getting products to the buyer in a timely manner. This may result in costly production delays. In order to lessen the possibility of delivery delays and disruptions, companies can carry increased levels of inventory. However, this has the effect of increasing purchasing costs (30:85-86).

In regard to possible logistics, inventory, and distance problems, one industry executive comments that "Buying offshore is fine if you have volume, plenty of lead time, and the part is simple" (37:57). Also, the movement towards Just-In-Time purchasing is driving some buyers to local sources (37:57). Paul Combs, in his book entitled "Handbook of International Purchasing" acknowledges long lead times and unpredictabilities in shipping as problems which can affect timely deliveries. However, he does offer solutions which involve changing ordering practices and limiting the usage of ports of call in the shipping terms (23:11). Understanding shipping terms is critical in international purchases (36:341). Overall, effectiveness

depends on developing foreign logistics expertise (86:7-8).

Currency and Exchange Rates. Currency and exchange rate issues are another problem in international purchasing (86:8). The Handbook to International Purchasing describes the effect of currency fluctuation on foreign transactions. Regardless of what currency is used in a foreign purchase, fluctuations in that currency must be expected since currency's are in a continual process of value adjustment. Countries responding to rising inflation are pressured to devalue their currency. On the other hand, countries with stable and efficient economies are pressured to increase their currency's valuation. These fluctuations in currencies can result in unexpected increased or decreased costs to the buyer. Consequently, if a U.S. buyer makes his purchase in U.S. dollars, but prior to the actual payment the seller devaluates its currency, the U.S. buyer would have missed the opportunity to take advantage of the seller's weaker currency. Conversely, if the U.S. buyer purchased in the seller's currency, but the seller revaluated it's currency, the U.S buyer would incur increased costs. The point is to keep abreast of the exchange market (23:117-126).

Keeping informed on currency exchange can result in increased profits. One company states that it is company policy to let suppliers quote in any currency and then

perform financial analyses of the currency options. That company has found that extra work to pay off (37:56-57). Another option in dealing with currency fluctuation is to make provisions for it in the contract (85:338).

Duty/Customs. Lack of knowledge of duty/customs procedures is also a problem in international purchasing (86:8). Getting the actual foreign purchased product into the country through U.S. customs can be complex and intimidating. Custom brokers, who are agents on behalf of companies, are experts in not only getting imports through customs in a timely and cost effective manner, but are import transportation specialists. Consequently, custom brokers should be chosen carefully (34:32).

Custom brokers can help by ensuring all required importing documentation is correct and on time. Custom brokers can aid in classification of products, which can result in significant cost savings since tariffs are based on the classification of products (36:37). As items come into the country, U.S. customs inspects and assigns duty, usually as a percentage of the value of the products, based upon a tariff classification schedule (61:97,108). Consequently the description of an item is crucial to classification and can make the difference between a high and low tariff (36:37).

Approaches To International Purchasing

The Handbook to International Purchasing advises that companies should look before they leap into international purchases (23:15). In other words, before companies decide to purchase from foreign sources, there should be an examination of the company's objectives, as well as the company's capability to buy internationally (74:120). Combs states: "... you should not enter the international arena because it is 'the fad' but rather you should have a clearly defined basis for doing so" (23:15).

Basically there are two types of objectives in purchasing internationally. These objectives are known as "specific purpose" or "total internationalization of the company." The objective of a company will have implications as to what type of purchasing operation to set up. However, prior to deciding how to go about international purchasing, the company's capability should be assessed. Capability includes determining whether or not a company can perform foreign buying activities, such as legal, logistics, and negotiations with foreign suppliers (74:121). In addition, the costs to purchase internationally must be considered. Much like in-house versus outsource decisions, the savings of overseas outsource must outweigh the costs of in-house operations (20:72,73,76).

Methods. There are essentially two ways to purchase internationally. Either a company may import directly from

the manufacturer or through an indirect method, such as trading companies, U.S. based vendor representatives, or affiliates of the buying company (97:130A35). A 1987 NAPM survey found that 72% of most companies utilize the direct method because it allows for the most return, although it has the most risk (37:55). Other benefits of direct purchasing, besides lower cost, include the ability to establish relationships with foreign vendors (129:3).

The use of the indirect method reduces the amount of work and risk involved in a foreign purchase (97:130A35). In addition, the use of an importer is a good way to develop confidence in the international purchasing environment (23:17). An importer may be an independent trading company, which is a company that buys various products from one or more foreign countries. Trading companies offer many advantages, such as: convenience, efficiency, sometimes lower costs due to volume purchasing, decreased lead time due to maintaining stateside inventory, and quality assurance since the trading company inspects imported products (29:27). Although there are many benefits to using a trading company, benefits must be weighed against the cost for their service. In addition, trading companies may only deal with particular and limited suppliers, which limits your supply base and quality (129:3).

Selection of an Overseas Source. A significant consideration in making an international purchase is

determining whom to select as a supplier. Selection of a supplier should take into account why the supplier is selling in the international arena. A buyer needs to ensure that a supplier is stable and in business for the long-term, since this impacts the dependability of the supplier. For example, a supplier may need international business if domestic demand is too low due to a depressed domestic economy. This situation is short term since the supplier will go back to the domestic market when the economy picks up. A better situation, from the buyer's perspective, is if the supplier's demand is too low because of excess plant capacity. This is a situation which leads to a more reliable supplier. Selecting a reliable supplier is dependent upon the buyer to ask the right questions to determine the supplier's motivations (23:25-30). In addition to adequate research on the supplier's motivation, visits to supplier's plant prior to award are worth the travel costs. Investigation of a foreign supplier is more crucial than investigating domestic suppliers, since there are more risks (85:336).

A knowledgeable customs broker is a good starting point when beginning to locate overseas sources. Customs brokers often specialize in importing certain commodities (36:36). Other sources of information on international trade include the following: U.S. Department of Commerce, state port

authorities, and international trade programs offered by the U.S. Small Business Administration (34:32).

Countertrade. There has been a resurgence in the practice of countertrade for commercial products in the international marketplace. Countertrade, which describes "a variety of trade arrangements whereby the seller agrees to take goods or services from a customer as a condition of the sale," has become a common method of conserving foreign exchange, minimizing trade deficits, and helping to develop domestic industrial and export programs (55:7). In addition, countertrade is most likely to occur when a seller's product has a low demand or excess plant capacity and wants to make a sale to a country whose currency is weak. Overall, the countertrade practice is expected to continue as a major element of the international trade arena. Some estimate that countertrade may become 15-50% of total world trade, although the 10-15% level is probably more likely (93:5-6).

Regardless of the level of countertrade, the ability to conduct successful countertrade has become more than the marketer's responsibility for making a sale. The purchasing function has taken on a more significant role. Purchasing's involvement has become more important because countertrade involves the purchase of foreign goods and services (55:8). In fact, companies are now focusing on global sourcing instead of global marketing as an approach to countertrade.

This means that companies look for foreign sources to satisfy their needs and then look to satisfy countertrade requirements (93:5).

The different forms or mechanisms in conducting countertrade were defined in Chapter 1. It should be noted that the definitions concerning offsets and countertrade differ in the literature (39:1). Some industry executives involved in countertrade and offsets point out that "There are as many definitions as there are writers about the subject and practitioners of the activities" (116:3). Nevertheless, among the countertrade methods of barter, counter-purchase, compensation (buy-back), or switch transactions, counter-purchase is by far the most prevalent type of countertrade (93:4). An example of a counter-purchase transaction is "a U.S. company contracts to sell lumber to an Indonesian factory and agrees to buy leather products in return. The leather products might be used by the company or resold to a third party" (55:8).

Successful countertrade requires the expertise of many functional areas such as, marketing, purchasing, legal, and upper management (93:3). Purchasing's role in countertrade is to make recommendations of what to buy and what value to place on those goods (39:20). It is particularly important that marketing and purchasing coordinate their activities in order to ensure that countertrade items meet company needs and are priced and negotiated at a level which ensures

profitability of the transaction. In addition, the purchase of countertraded items should be analyzed with respect to the effect it will have on the company and existing domestic suppliers (55:9-13).

Effectiveness in International Purchasing

Successful international purchasing requires following two basic principles. The first principle is to know yourself. This means companies and buyers must know their objectives and quality requirements. The second principle is to know your supplier. This not only means know what they can offer, but also take time to establish a good working relationship (29:24).

The course text for the NAPM Seminar on International Purchasing sums up effectiveness and success in the international arena with a list of 12 commandments as follows:.

1. SELL yourself by testing the marketplace.
2. Decide WHAT you want to buy. Start with simple, non-critical items, as early efforts need to be successful.
3. GATHER all internal info -- specs. drawings, samples, etc.
4. Determine NEED -- quantity and timing. Have a domestic back up source. Decide % of annual usage to source abroad.
5. DEFINE quality requirements, including packaging.
6. COMMUNICATE with others, Q.C., Engineering, Production and Finance -- so they're involved.

7. Set a "TARGET PRICE" (Both \$ level and 10 to 20% under cost including freight).

8. Decide HOW you will buy

- A) Direct from the foreign company
- B) Through local representatives
- C) Trading companies
- D) Specialized Independent Agents
- E) Affiliate companies or joint venture partners or other in-house division with contacts or experience various international markets.

9. PREPARE yourself and your buying team for discussion and negotiations as a team. Allow adequate time to explore fully all details.

10. CONSULT with other company's buyers who have experience. What results have they had?

11. VISIT suppliers when you have firm leads or quotes and are beginning to buy.

12. Study literature, methods, culture and whatever available. (61:11)

III. INTERNATIONAL ARMAMENTS COOPERATION

History of Armaments Cooperation

After World War II, Europe's NATO nations' economies and industries were significantly damaged. In order to aid in the recovery, the U.S. provided military assistance. By the late 1950's, recovery took place and Foreign Military Sales (FMS) replaced military assistance. Military assistance and FMS secured a high level of weapons standardization, since most NATO nations' weapons were U.S. made (42:51).

An integrated security and equipment policy has been advocated among the western allies since the creation of NATO (108:29). The U.S. made various attempts in the 1950's and 1960's to initiate coproduction arrangements and increase reciprocal purchases between the U.S. and European nations. However, these attempts did not amount to much and a large defense trade imbalance in favor of the U.S. continued as a result of large amounts of FMS (16:123-124).

During the 1970's, European defense industries increasingly broke away from their reliance on U.S. weapons and developed their own industries. This new independence resulted in increased demands for offset agreements. NATO also found itself plagued with inefficient use of resources in a duplication of effort and decreased military readiness due to the development of nonstandardized military

equipment. Consequently, in 1974 an amendment to the 1975 Appropriations Authorizations Act was passed indicating congressional support for RSI (42:50-51). Later, the Culver-Nunn amendment to the 1977 Appropriations Authorization Act provided waivers to the Buy American Act and promoted cooperative arrangements in order to achieve standardization. In addition, the amendment encouraged the development of a unified Europe as a basis for reciprocal trade with the U.S. (79:2-2).

Also during this time, President Ford during the 1976 NATO summit announced the development of a two-way street in defense trade provided that the Europeans consolidate their efforts. Consequently, the Europeans formed the Independent European Program Group (IEPG) in 1976 to consolidate European cooperation efforts (42:52). The IEPG was a significant movement toward defense collaboration among the European NATO nations, since the previous European group promoting intra-European collaboration, called the Eurogroup, did not include France (122:20).

President Carter during the 1977 NATO summit also supported the IEPG formation and encouraged the two-way street in defense trade. Under his administration DoD Directive 2010.6 on RSI was established. This directive provided for general and reciprocal procurement Memorandums of Understanding (MOU) between countries, usually bilateral agreements, which were used to remove defense trade barriers

and open the path for the two-way street in defense trade. The directive also encouraged nations to purchase systems already developed by allies. Lastly, the directive called for a family of weapons approach to cooperation (42:52). Despite these developments, the two-way street of defense trade did not become a reality in the 1970's (16:129).

Under President Reagan in the early 1980's, a shift in armaments cooperation approaches from Government-to-Government to industry-to-industry took place. In June 1983, a Defense Science Board task force, headed by Dr. Malcom Currie, conducted a study to determine the best way to increase industrial cooperation with NATO and Japan. The report on NATO found that increases in industrial cooperation were dependent upon the following: Europeans investing more in research and development so that a meaningful technological partnership can be formed between the U.S. and European NATO nations; thinking in terms of a two-way street in technology and not just in economic terms; and participating in cooperative ventures that make good business sense. The report points out that maintenance of the U.S. technological leadership is key to the nation's economic and defense strength and should alleviate armaments cooperation fears (31:ii-iii).

The report on Japan found that, unlike NATO, well established armaments cooperation policies with Japan did not exist. However, when policies are developed they should

be part of an overall U.S. economic and political strategy concerning Japan. The report recommended that Japan's technological development was at a high enough level for a two-way street in technology. Finally, the report states, as in the NATO report, that effective armaments cooperation and competition is dependent upon the U.S. maintaining its technological strength (32:iii-iv).

In 1983, Congress passed the Roth-Glenn-Nunn Amendment which was a broader attempt to further RSI. The amendment called for the coordination of resources to produce a collective and credible conventional defense, a defense trading market between European NATO nations and the U.S., and the need to eliminate duplication of effort and share defense burdens as well as benefits (79:2-2).

In 1985, Congress passed two significant amendments to the 1986 Appropriations Authorizations Act. The first is the Nunn-Roth-Warner amendment, known as the Nunn Amendment, which authorizes DOD \$200 million in funding for cooperative R&D programs between the U.S. and other NATO allies and \$50 million for side by side testing of U.S. and other NATO allies' weapons (79:2-8). The Nunn Amendment money is viewed as 'seed money' to foster the development of cooperative programs (53:25). The second Amendment is the Quayle-Roth Amendment, known as the Quayle amendment, which relaxes some U.S. laws in order to facilitate contracts for cooperation purposes (79:2-9).

The 1980's seem to indicate a strong congressional and high level defense department support. In 1985, then Defense Secretary Weinberger sent a memo to the military service chiefs advocating armaments cooperation and education on the subject. In 1988, then Defense Secretary Carlucci called for an increase in cooperative funding from 3% to 25% of research, development, test and evaluation resources by the year 2000 (16:158).

In addition, NATO has implemented a new armaments planning system, which requires that national weapons requirements and plans be reviewed by a NATO committee (14:107). The planning system is expected to improve NATO cooperation, improve NATO force goals, and determine if national armaments plans consider NATO force goals (62:20).

There is a significant opportunity to improve European armaments cooperation with the coming European integration in 1992 (62:17). Mr. Henk Vredeling, chairman of an IEPG study team which produced a report entitled 'Towards a Stronger Europe' promoting a common European defense market, views the European Economic Community (EEC) as an opportunity to implement the report's recommendations that have not been implemented by the IEPG (122:20-23).

The mid 1980's defense trade ratios, which reflect two-way street activity in reciprocal purchases, have steadily become more even. Trade between the U.S. and NATO nations plus Canada is approximately a 2:1 ratio in favor of the

U.S. (102:23). This is a significant change from the perceived one-sided ratio of 9:1 in the 1970's (66:76). It should be noted that trade ratio statistics do not reflect complete data bases and there is also inconsistency in computing the ratios due to trade information coming from many disjointed sources (102:23).

Despite some success and progress, problems still exist. For example, differences in national requirements and interests are currently leading to the development of 3 independent next generation fighter programs among the NATO allies. These programs include the following: the European Fighter Aircraft (EFA) by Britain, West Germany, Italy, and possibly Spain; the F-16 Agile Falcon upgrade program by the U.S., Belgium, and possibly Denmark, the Netherlands, and Norway; and the French Rafaele (124:89).

Approaches to Armaments Cooperation

There are two methods for cooperating in the development and production of weapons with foreign defense companies. The first is the "pull" arrangement, which results from a government agreement to cooperate with other countries. The other method is the "push" arrangement. This method results in defense companies cooperating with foreign defense companies without any type of government arrangement. This type of international teaming arrangement is the more established approach and has been primarily used to gain access and participation in foreign markets.

Subcontracting arrangements and joint ventures characterize this approach (53:25,28).

Approaches to armaments cooperation can also be viewed in terms of a "grand design" or "a la carte" approach. The "grand design" is based upon optimizing the alliance's military capability as a whole with the least amount of cost. Nationalist concerns are subordinate to alliance concerns (38:17). Thomas Callaghan, who advocates defense trade with a unified Europe to achieve affordable weapons and military effectiveness in NATO, is a proponent of the grand design approach (54:82).

The "a la carte" approach is the specific, ad hoc, cooperative arrangements between nations, such as codevelopment and coproduction (38:19). These approaches have been most of the cooperation activity so far (108:31). Some argue that a grand design approach, although theoretically beneficial in the long term, is impractical and unrealistic due to the political and economic implications of international armaments cooperation. The "a la carte" arrangements are better suited to accommodate the political and economic problems of unequal collaboration partners (38:19-20).

The different methods of international armament cooperative projects were defined in Chapter 1. These methods for cooperation can be viewed along a continuum of weapon system development i.e., identifying the threat,

concept exploration, demonstration and validation, development, production, and operational support.

International armaments cooperation can take place any where along this continuum, such as harmonizing requirements via armaments planning, sharing ideas, cooperative research, codevelopment, and coproduction (41:10-11). In addition, armaments cooperation can take place through a 'conception-to-maturity' approach, which allows nations to participate throughout all stages of weapon acquisition (46:19).

Benefits of Armaments Cooperation

Why is there a need to harmonize weapons development and production or pool resources or engage in codevelopment and coproduction with our allies? Why can't the U.S. defense department and industry provide all U.S. national security? How does armaments cooperation with U.S. allies benefit the U.S. Government and the defense industry? The advocates of international armaments cooperation identify numerous economic, political, and military reasons why cooperation with allies is not only beneficial, but necessary. However, one excerpt appearing in the literature vividly points out the reasons.

The General was lecturing at the War College on 'Cooperation With Our Allies'. When he finished, a young officer asked, 'What do we get out of cooperation with our Allies?' The General Answered in one word: 'Allies!' And if labor or industry on either side of the Atlantic were to ask the same question, three more words would be needed: 'Jobs, Markets, Profits.' (16:20).

A Stronger NATO. Armaments cooperation, as previously defined, involves the interaction, participation, collaboration, and teamwork in developing and producing weapons for a better common defense among allies. The idea of a common defense among allies to deter Warsaw Pact aggression is NATO's main objective (46:17). Furthermore, the participation in NATO and in Europe's defense remains a prime U.S. national security policy (63:5). In regards to NATO security and in response to the question "How do we maintain effective deterrence and defence at an affordable cost?", General John Galvin, Supreme Allied Commander Europe, states that "... I am convinced that at least part of the answer lies in improving armaments cooperation in the Alliance" (46:21). Armaments Cooperation to secure the mutual security of the NATO allies is the most significant benefit to the U.S. as a nation (16:1).

Achieve Economies of Scale. Besides the need to maintain a viable NATO alliance, the economics of producing weapons is another compelling reason for armaments cooperation (38:39). Today's weapons acquisition environment is marked by the rising costs for high-technology weapons and declining defense budgets (26:70).

Paul Kennedy in his historical analysis of "Economic Change and Military Conflict from 1500 to 2000" entitled "The Rise and Fall of the Great Powers" explains that the cost of weapons and commitment for military spending has

increased throughout history and is likely to continue, particularly as weapons become more sophisticated technologically (64:442-443). Norman Augustine in his book 'Augustine's Laws and Major System Development Programs' explains the effect of rising costs for defense weapons in terms of a law, sometimes known as the Final Law of Economic Disarmament. Augustine's Law is stated as follows:

In the year 2054, the entire defense budget will purchase one tactical aircraft. This aircraft will have to be shared by the Air Force and Navy 3 1/2 days each per week except for leap year, when it will be made available to the Marines for the extra day. (5:55)

Augustine's Law vividly explains that technologically superior weapons cost more to develop and produce than ever before, which means that fewer weapons can be afforded and made available for deterrence. This is critical to the U.S. and the NATO alliance since there continues to be a reliance upon advanced technology to balance the numerical threat of the Soviets and the Warsaw Pact (46:18).

In addition to the rising cost of technology, the U.S. defense budget is expected to decline in the early 1990's, largely in response to the massive budget deficit accumulated in the 1980's (65:22). Newspaper headlines of the budget cuts to be made by Defense Secretary Cheney indicate that tough program funding choices will be made in 1990 and 1991 (45:4). Consequently, the issue of program stretchouts has resurfaced in Washington D.C. despite the

recognized economic inefficiencies of the stretchout practice (65:22). The budget crunch is not only affecting the Government's ability to field weapons, it is also being felt by the U.S. defense industry as demonstrated by the shakeout or contraction of defense firms currently underway. The budget reduction has resulted in fierce competition for the scarce weapons programs, such as the Air Force's Advanced Tactical Fighter (6:114).

In an environment of rising weapon costs and declining defense budgets, armaments cooperation is essential for the U.S. to achieve the economies of scale necessary for affordable weapons (26:79). Economies of scale result when unit costs decline as production rates increase (78:550). Armaments cooperation lengthens production runs because of the increased total quantity ordered by the various participants (38:11).

Prevent Structural Disarmament. The Europeans have recognized the need to expand production runs by pursuing cooperation and export sales since the 1950's. The small European state economies were too small to provide affordable weapons on a independent national basis (38:11).

Callaghan claims that the U.S. has not recognized the need to expand markets. The U.S. has attempted to be self-sufficient in meeting it's national and global military needs, which has led to increasing unit costs for weapons. Callaghan states that the U.S. market (defense budget plus

exports), or in other words the structure, is too small to provide affordable weapons and results in fewer weapons. Consequently, the phenomenon of structural disarmament takes place (16:23-42). Callaghan believes that structural disarmament can only be prevented by more armaments cooperation with allies that ultimately results in a "two pillar North Atlantic defense market;... not continued barter (i.e., licensed production and offsets) but intercontinental trade... ; not bearing burdens but sharing burdens and benefits, equitably and efficiently" (17:61). A two-year study on establishing a NATO resource strategy conducted by the Center for International Strategic and International Studies confirms the importance of armaments cooperation in reversing the structural disarmament trend (1:13).

Efficient Use of Resources. Resources in a nation's economy, which are available for defense, are limited. Expending money for defense items means that less money can be spent for civil items, such as education, health care, and commercial industry investment. Consequently, there are economic pressures to control national defense spending levels in order to remain economically strong (58:34-35). Remaining strong means getting a better return on investment from defense expenditures. One method used to make more efficient use of limited resources for defense is armaments cooperation (62:17).

Armaments Cooperation with allies results in efficient use of national resources because it limits the waste of duplication of effort in developing and producing weapons on a national basis (108:30). Armaments cooperation, particularly at the Research and Development (R&D) stage, allows for better coordination of resources. Coordinating resources is essential to preventing unnecessary duplication of effort between the allies and subsequently efficient use of resources (1:13). In order to coordinate resources more effectively, NATO has instituted an armaments planning system that harmonizes NATO force goals with national armaments planning. This allows for optimum cooperation opportunities (1:14)

Access to Technology. Armaments cooperation allows the U.S. defense industry access to advanced technology throughout the world, which improves the defense industry's competitiveness. This ultimately allows the U.S. to maintain a credible deterrent against the Soviet Union and Warsaw Pact (26:70). While the U.S. remains the technological leader in defense, primarily due to the vast amount of R&D spending, other countries do possess valuable advanced technology (53:28). The U.S. already benefits from advanced foreign technology included in current U.S. weapons inventories, such as the Marine's AV-8B Harrier which was obtained through a cooperative agreement (53:24). A more recent example where cooperative agreements can access

technology is the current cooperative proposal being negotiated with Japan for the development and production of the Japan's FSX aircraft. The proposed agreement requires a technology flowback provision that would permit the U.S. to obtain Japanese advanced technology on wings made from a single-formed composite material and highly regarded phased-array radar expertise (110:1, 104:20).

In addition, U.S. defense contractor's have been entering into international teaming arrangements with foreign companies to obtain advanced technology. For example, General Dynamics, otherwise unable to compete for the U.S. Army's new tactical radio, called the SINCGARS, utilized an Israeli's company's radio technology which resulted in winning a competitively awarded Army contract worth \$191,000. This also secured General Dynamics with a strong competitive position in the future (53:27-28).

Share Risks and Development Costs. Governments and companies can benefit in sharing high development costs through cooperation with allies and foreign companies. Sharing of funding between governments for a defense product lessens a company's risk in case of failure (76:51). The benefits of cooperative agreements and teaming arrangements to the defense industry means a decrease in development cost and risk to the company (53:29). In addition, U.S. industry is choosing international teaming arrangements because of the following changes in the U.S. contracting environment:

less company Independent Research and Development and Bid and Proposal expenditures can be recovered from the government; development contracts are shifting from cost to fixed type contracts, which increases company risk; industry is being forced to share more in the costs of pre-development; progress payment rates have fallen; and second sourcing practices have increased (101:30,32).

Markets and Jobs. Armaments cooperation and international teaming arrangements allow the U.S. defense industry access to bigger markets, which as previously discussed increases production runs and results in lower unit costs for weapons (76:51). Companies have used business partnerships, such as joint ventures and subcontracting arrangements to increase there ability to participate in foreign markets (53:28).

European defense companies have found that business partnerships are about the most effective way to get into the U.S. defense market and avoid political protectionism concerns (66:80). However, with the upcoming integration of Europe in 1992, U.S. defense companies have stepped up efforts to form partnerships with European companies in order to secure access to the expectedly stronger European market (130:66-67). This aggressive pursuit of international teaming is boosted by the fear among U.S. companies that increased collaboration within Europe resulting from the 1992 trade barrier elimination could

exclude them from the European market (101:30). In addition, armaments cooperation, particularly coproduction and licensed production, has the added benefit of increasing employment to both participants (57:130).

Comparative Advantage. Armaments cooperation can help achieve comparative advantage. Comparative advantage results when a country is able to produce some items more productively than other countries. Consequently, it is economically more advantageous for each country to specialize on products in which it has a comparative advantage (99:489). The recent codevelopment program for the Terminal Guidance Warhead is one example where the respective nation's companies are contributing to the program by doing what each company does best (53:23). Although NATO members may not be ready for complete specialization in developing and producing weapons, specialization in functional areas such as logistics support or missions may be possible (62:20).

Achieve Standardization and Interoperability. The most established argument in favor of armaments cooperation has been the need to standardize equipment within NATO. NATO's vast differences in procuring and fielding weapons among its members has long been recognized as a military deficiency in readiness (42:50). Furthermore, NATO's ability to conduct extended conventional warfare effectively

is seriously questioned due to the differences in equipment (38:14). Logistically, differences in repair equipment, training of maintenance personnel, and repair parts decreases supportability and also contributes to lower military readiness (12:8).

Ultimately, standardization could allow NATO to fight as a unified military force (108:30). Interoperability, which is often viewed as a compromise to complete standardization, can at least improve NATO operational capabilities (19:55). Nonetheless, armaments cooperation can achieve tactical-military benefits (108:30). In addition, economic benefits of common logistics support systems resulting from standardized and/or interoperable systems can also be achieved (12:8).

Difficulties of Armaments Cooperation

Protectionism. The U.S. has a history of protectionism dating back to the Buy American Act of 1933. A review of armaments cooperation history shows that there is repeatedly strong words in favor of cooperation countered by protectionist obstacles (42:54-55). Consequently, making armaments cooperation work requires constant attention in order to change the protectionist institution (47:18).

The ability to develop and maintain a healthy defense industry increases national prestige and bolsters a nation's sovereignty. In addition, it provides a nation with increased political influence internationally, high-

technology with possible commercial applications, jobs, knowledge, and the ability to conduct independent military operations. Consequently, each country does not want to relinquish it's ability to maintain or obtain a high-technology defense industry. In fact, a nation may be willing to pay a premium for maintaining or obtaining national capability. This desire for defense self-sufficiency is in direct conflict with armaments cooperation (13).

There are plenty of accusations of protectionism from Europe and the U.S.. The European allies often accuse U.S. industrial base arguments as a disguise for protectionism (126:20). Lord Carrington, NATO's secretary-general, even questioned the U.S.'s intent to be in the NATO alliance at all (67:78). The U.S. accuses the Europeans of having a buy European attitude in regards to allowing the U.S. to participate in the many cooperative projects within Europe (67:85). One U.S. senator comments that the Europeans have recovered economically and the U.S. should look out for it's self-interest as much as they do their own self-interest. Protectionism seems to breed protectionism on both sides (67:77-78).

Funding Differences. Differences in budgetary funding processes may adversely affect armaments cooperation projects. Then Deputy Secretary of Defense Taft comments that NATO allies, such as the United Kingdom (U.K.) and West

Germany, do not have much flexibility in shifting funds from project to project in order to support cooperative programs (47:18). In addition, the U.K. has a stable budget process controlled by one branch of Government as compared to an instable U.S. budget process influenced by many different interests. The diversified nature of interests in defense funding in the U.S. can make it more difficult to get consolidated support for a cooperative project, particularly when competing against a similar national program (105:25-29).

Operational Requirements/Timing Differences. The U.S.'s global commitments create a need to operate in diverse military theaters as opposed to the more limited European military theater. Consequently, different operational requirements may cause difficulties in cooperative programs (100:22). A recent case study of the Modular Standoff Weapon (MSOW) cooperative program concluded that operational requirements of the individual participating nations were too dissimilar from the start of the program, which ultimately led to the withdrawal of two countries from the program (10:110).

Operational requirements are important since they are the basis for any program acquisition. However, cooperating on requirements with allies is difficult and involves compromise. Differences such as, doctrine, force structure, mission, and threat may prevent nations from agreeing on

operational requirements and equipment specifications (105:3-10). Some, however, criticize armaments cooperative programs since compromise on operational requirements may result in a weapon that nobody really wants (100:5).

In addition to operational requirements differences, timing of weapon system development and production may be different. For example, a U.S. defense weapon may need replaced while a European weapon may not need to be replaced. Consequently, it would be hard to justify spending money for the sake of cooperating while no real need exists (13). Armaments cooperation should be a means to an end, and not done just for the sake of cooperation, but to meet a military need (82:19).

Unrealistic Economic Savings. One of the principal arguments in favor of armaments cooperation has been efficiency, or in other words, more bang for the buck. However, cooperation for efficiency sake alone ignores the need for the political cohesion, and economic and social health of the individual members in NATO (52:86). Some opponents of armaments cooperation point out that there isn't sufficient evidence to prove that collaboration results in cost savings. In fact, weapons that are developed and produced on a cooperative basis take more time and money than weapons developed and produced by one nation (46:20). Kieth Hartley, author of the book entitled "NATO Arms Cooperation: A Study in Economics and Politics" states

that economies of scale benefits are not supported in the theoretical or empirical literature (57:48).

Ineffective Standardization. Some believe that compromise may even result in the U.S. ending up with weapons inferior to what could have been produced in the U.S. (19:66). In addition, having different types of weapons may make it harder for enemy forces to defend against (52:87, 100:5).

Burdensharing. The question of how the burden of NATO's defense is to be shared by it's members continues to surface when discussing armaments cooperation (57:29). This is particularly so in light of the huge budget and trade deficits that plague the U.S.. While many argue that the U.S. spends more in defense of Europe than Europe does, there are other unquantifiable contributions which European nations make NATO, such as conscription and having foreign troops stationed on their soil (63:5). In addition, if the U.S. expects Europe to increase their share in defense, the U.S. must also be willing to share in other things, such as arms selling and decision making (113:15). Callaghan states that 'sharing risks, benefits, and burdens equitably should be the purpose of armaments cooperation' (16:115). U.S. Senator McCain warns that discussing burdensharing shouldn't turn into an 'ally-bashing' session, as often is the case (83:86).

Management Difficulties. Management of international programs can be expected to be more difficult than national programs (100:69). Since past international armaments cooperative programs have had a mixed success/failure rate and there is a trend toward their increased use, effective management of international programs must be a major concern (41:47). Charles M. Farr's doctoral dissertation examined the issues relating to program success or failure. His research supported the following "management principles:"

Management Principle # 1: A high level forum, such as a steering committee, should be used to resolve issues and provide strategic guidance.

Management Principle # 2: The international partners of a cooperative project should grant a high level of authority to a single project manager, who directs an internationally staffed co-located project team.

Management Principle # 3: For relatively small programs, extra effort should be expended to ensure that adequate support for the program exists.

Management Principle # 4: The goals and objectives of each international participant must be clearly identified, and formal mechanisms structured at the outset so that these various goals can be achieved.

Management Principle # 5: Technological advances should be attempted in an evolutionary, incremental fashion.

Management Principle # 6: Extra care should be taken to structure a program in which benefits are equally distributed and in which all participants are "equally happy or unhappy" with the results.

Management Principle # 7: Government and industry members of the project team should be carefully chosen to maximize experience along the following dimensions: managerial experience, international

experience, and experience with the relevant technology.

Management Principle # 8: There should be active planning for and anticipation of various environmental/external influences such as inflation; unplanned cost, schedule, and production volume changes; increased threat of war; etc. (41:170-180)

Technology Transfer/Industrial Base/Offsets.

Technology transfer and the health of the defense industrial base are at the center of most armaments cooperation difficulties (76:8). In addition, there is an increasing demand for offsets in defense trade which is currently receiving high amounts of congressional and presidential attention (103:82). Although these topics demonstrate the difficulties involved in armaments cooperation, due to their significance, they will be presented separately in later chapters.

Scale Differences Between Europe and the U.S..

Armaments cooperation can not be effective until the European NATO nations are consolidated and can cooperate as an equal partner with the U.S. (115:121). However, one defense industry executive comments that successful cooperation can take place if nations "... make a real contribution in proportion to its capabilities and needs" (3:47). A Rand Corporation report entitled "Multinational Coproduction of Military Aerospace Systems" explains that successful collaboration must take into account scale differences between the U.S. and European allies. Scale

differences include the following: despite comparable GNP levels, the U.S. spends far more on defense; NATO Europe is not politically or economically unified as is the U.S.; the U.S. has a larger market size and larger defense industry capacity and size; and the U.S. has larger inventories of weapons (100:8-15).

Workforce Differences. Workforce differences in Europe and the U.S. can significantly impact international cooperative programs. In Europe, long-term workforce stability is a major goal. Consequently, European manufacturers tend to be more labor intensive than U.S. manufacturers due to the importance of job stability. Other workforce characteristics in Europe that can complicate program planning and execution include: restrictive layoff policies, restrictions on hiring temporary workers, preferences for single versus multiple workshifts, opposition to overtime, and differences in lengths of vacations and work weeks (100:15-22).

Differences in Motivations. Motivations to participate in armaments cooperation are different for each of the participants. The feasibility of increasing armaments cooperation depends upon the differences in motivations (31:13). The following briefing charts from the Defense Science Board Task Force's report on industry-to-industry international armaments cooperation succinctly outlines the motivations of governments and industries to participate in

armaments cooperation. The U.S. Government's and DOD's motivations include the following:

- More cohesive alliance, with partners bearing a greater share of the costs
- Positive psychological climate helps alliance relationships and will to defend
- More efficient alliance wide industrial base (lower total investment)
- Increased military capability through standardization and interoperability and superior equipment

-- but many disparate views: services, OSD, Congress, State Dept. (31:14)

Foreign Government's motivations include the following:

- In Ministry of Defence's, same a U.S. Gov't - A more efficient military alliance
 - Jobs a prime consideration
 - Monetary balance of trade
 - National technology base
 - Desire national defense industry
- Industry protected as national assets
-- Must export to be viable (31:15)

Foreign industry's motivations include the following:

- Access to large defense market
- Build technology base and product base for third country sales - cannot survive on home market (31:16)

U.S. industry's motivations include the following:

- Pragmatically business oriented
- Possible expansion of markets: profit/license fees
- Possible exploitation of existing R&D investments
- Helps with increasingly tough offsets

-- But long-term benefits to industry are viewed as mixed (31:16)

Political Problems. Callaghan claims that armaments cooperation progress can not be made until first order obstacles are resolved.

First-order obstacles deal with matters of (1) sovereignty, (2) conflicts between defense and deterrent strategies, (3) conflicts in national macroeconomic budget and resource policies, or (4) the absence of interallied cooperative structures. (16:6)

Obstacles to armaments cooperation such as, differences in national military requirements, funding problems, technology transfer, offsets, "Buy National" laws, policies and practices, job issues, etc..., are what he calls second-order problems. He acknowledges that second order problems are significant, however they can not be resolved until the first order problems are resolved. Second order obstacles are within the control of government, military and industrial bureaucracies, while first order obstacles are political problems that can only be resolved by heads of state and legislatures (16:3-9).

Future Of Armaments Cooperation

Callaghan criticizes that armaments cooperation has not come far enough and that the two-way street in defense trade has never really been built (16:117-159). He states that armaments cooperation history is one of failure and progress has been what he call's Sisyphean progress, which he explains as follows:

... reminiscent of poor old Sisyphus, King of Corinth, condemned by Zues for all eternity to try to roll a huge rock uphill, only to have the rock eternally roll back upon him. (16:117)

Callaghan suggests that the emphasis in armaments cooperation must change:

- From cooperative projects to cooperative and competitive markets;
- From barter to military trade;
- From American taxpayer-paid technological transfusions to European taxpayer-paid defense research and development investment on a scale more nearly that of the DoD;
- From bilateral MOUs with 13 Europes, to one MOU with a European pillar (the IEPG or a to be expanded WEU);
- From technological transfusions in lieu of trade to technology transfers in aid of trade;
- From sharing markets within a project to opening markets for all projects;
- From stretched-out, low volume production to optimum production on an intercontinental scale;
- From protecting the American Arsenal of Democracy to building a NATO Arsenal of Democracy;
- From project success to strategic success. (16:159)

IV. OFFSETS

As previously discussed, countries develop defense industries for many reasons, including national pride, sovereignty, political influence, jobs, advanced technology and knowledge. Countries progress towards developing their own defense industry and becoming more independent of military assistance, through the following six stages:

- Maintenance and repair of imported systems.
- Assembly of subsystems from wholly imported components.
- Final assembly of imported components.
- Complete local production of components and assembly using those components.
- Production using imported designs (with minor modifications) or production through reverse engineering of foreign weapons.
- Production based on local research and design of new systems. (22:10)

As countries proceed through these stages, they make demands for offsets in order to further the development of their defense industry (22:11). There is an evolution in the use of offsets that purchasing countries and selling companies pass through as progression is made towards developing a self-sufficient defense industry. This evolution in the use of offsets by countries and companies is described in four phases. In the first phase, countries primarily concentrate on getting as much offsets as they can

without regard to their economic and industrial effect or quality of the proposed offset. Selling companies, in the first phase, typically enter into ventures in which there is no corporate expertise and expend high level resources to accomplish the offset. This ultimately results in corporate inefficiency. The second phase can be characterized by a lack of control on the offset program by countries and companies. Neither are able to track the offset accomplishments. In the third phase, countries attempt to enforce offset arrangements. Companies, in the third phase, begin to develop a management concept to deal with offsets. Finally, in the fourth phase, countries have focused on promoting industrial development and benefits through offset arrangements. Companies, in the fourth phase, use offsets as a marketing approach for their product and eventually turn offsets into profits (81:4-7+).

As a result of the economic and industrial recovery of Europe from World War II, European defense industries have become more competitive. Consequently, some countries have required offsets arrangements as a condition for accepting U.S. sales (125:1). Less developed countries (LDCs) have also increased their demand for offsets due to numerous reasons. Since the cost of modern defense weapons is high, many LDCs have not been able to generate enough foreign currency via their own exports to pay for weapons outright. In addition, LDCs may be considered a poor credit risk,

consequently offset demands may aid in financing the purchase of weapons. Finally, a LDC's goods are usually unattractive on the open market due to the LDC's overvalued exchange rates. Offsets make it possible for the LDC to sell those products (116:4).

In addition, when a country purchases a high cost weapon it must be able to demonstrate to it's public that it has received the most for it's money. Accordingly, offsets provide a political tool to show that a country has received technology transfer, jobs, or furthered the development of their industry in addition to spending limited resources for weapons (116:3). Countries may even be willing to spend more on foreign weapons if accompanied by offset arrangements (94:35).

In a sense, the U.S. Government tries to get more out of domestic defense purchases than just an actual weapon. The government has many social goals, such as small business and minority business concerns, which it attempts to realize through weapons acquisition. Although the U.S. does not have an explicit offset requirement policy, when purchasing any major weapon system internationally, the U.S. requires primarily domestic production of the weapon in order to ensure mobilization capability during a conflict (116:3).

Increasing Use of Offsets

The demands for offset arrangements have increased. One comment appearing in an article titled "The

international Offset Phenomenon in the Aerospace Industry' vividly describes the impact of countertrade and offsets.

If we do not learn to understand and guide the great forces of change at work on our world today, we may find ourselves swallowed up by vast upheavals in our way of life. Countertrade is one of those upheavals. In my twenty-five years in international business, I have never seen a phenomenon with the magnitude of change that countertrade has caused. (51:61)

In 1988, an executive branch interagency report chaired by the OMB examined offset data for military exports from 1980-1987. The report states that over \$34 billion in military exports sales contained offset obligations involving 30 different countries. Over \$19 billion, or 57%, of the \$34 billion in sales was the value of offset arrangements (94:8). In response to the increased use and complexity of offsets, many companies today have established special offices to handle offset and countertrade operations (116:2).

Are offsets necessary for doing business in the international marketplace? One author comments on the offset phenomenon as follows:

Offsets are often claimed to be a 'bad' trade practice. It is more accurate to say that offsets allow a seller and buyer to make the best out of a bad trade situation. (123:3)

Offsets are seen by some U.S. industry executives as a necessary evil for doing business overseas.

... from the perspective of U.S. companies, the question is not whether to accept a deal with or without countertrade or offsets. The question U.S. companies face in the current competitive international environment is between business or

no business at all; increasing employment by obtaining new contracts with some offset provisions, or maintaining or decreasing employment because of no new foreign business. (116:5)

Another perspective concerning the necessity of offsets is stated as follows by Mr. Peter Levene, Chief of Defense Procurement for the British Ministry of Defence:

I have said in the past that I'm not a great believer in offset. I'm not a great believer in offset as between European nations which are trading on a fairly even basis. But I am afraid it is important between the States and Europe for one very simple reason. If you are a relatively small European country, there is almost a necessity to buy some defense equipment in the US, because there is no way you can cover the whole spectrum. ... In the US, because the industry is so big, there is actually no necessity to go and look elsewhere. ... So in order to say, 'You've got to make this Two-Way Street work, or at least work better than it has up until now' the offset requirement is a catalyst to make people go out and do it. (106:80)

U.S. Policy/Agency Responsibility/Data Base

In response to congressional inquiry, a 1984 General Accounting Office (GAO) report found that the U.S. does not have a comprehensive national policy on offsets and no one agency has responsibility for ensuring that U.S. interests are served in offset agreements for military equipment. Furthermore, the report found that a complete and accurate data base to assess the impact of offsets does not exist (119:6-12).

As of 1984, the congress mandated that the president report annually on the effects of offsets on defense

preparedness, industrial competitiveness, employment, and trade (118:4). On behalf of many Government agencies, including Defense, State, Labor, and others, the Office of Management and Budget (OMB) chaired the coordinating committee to develop the required report (79:7-13). It should be noted that no one agency in the Government has responsibility for ensuring offsets are in the best interest of the U.S. (119:16). In 1988, Congress required that the president establish a comprehensive national offset policy during Fiscal Year 1989, primarily regarding the largest U.S. defense trading partners (103:82).

Two possible U.S. Government responses to the increasing use of offsets in the international arena include a U.S. reciprocal offset policy and the total elimination of offset requirements. The OMB report does not favor either of these responses. With respect to establishing an explicit reciprocal offset policy that requires offsets when the U.S. purchases abroad, the report states:

... such a policy would have limited benefits, little impact on other countries's offset practices, and significant costs to U.S. economic and national security interests ... (94:40)

In a presentation to congress, Mr. Joel Johnson of the American League for Exports and Security Assistance, which represents 24 corporate and 4 union members, does not believe an "urgent government response" to the offset issue is warranted at this time (116:9). However, there are some government actions which are recommended from ALSEA's

perspective. First, the government shouldn't require U.S. industry to report offset data since offset data represents the uniqueness of each offset deal and when used for comparison may be misleading. Offset values may be inflated and not truly require actual performance. Also, increased amounts of offset data may inadvertently compromise U.S. companies offset negotiating positions. Nevertheless, ALSEA believes offset data reflecting foreign countries' demands for offsets should be collected (116:9-10). Offset data is believed to be necessary in order to determine the military impact of offsets. Presently, the U.S. does not know to what extent the U.S. is dependent upon foreign contractors, particularly at the lower tier levels, as a result of offsets (111:14).

Second, the government should not impose unilateral offset restrictions on U.S. companies since this may cause U.S. companies to lose business to other foreign companies that do allow offsets. Bilateral or multilateral agreements among nations to limit offsets may be beneficial provided that the agreements are strictly enforced. In addition, it may be beneficial to use DoD's significant amount of foreign purchases as leverage to reduce offset demands or obtain offset credits (116:11-12).

Presently, it is the DoD policy, as stated in the 'Duncan Memorandum' of 1978, not to be directly involved in offsets, unless it is necessary for U.S. national security.

Offsets are the responsibility of U.S. industry (79:7-6,7-20,7-21). However, the U.S. Government still exhibits control of the offset process via the technology transfer control process. In this respect, the U.S. Government needs to analyze offset demands to ensure that the offset is in its best interest (22:11,12).

Arms sales are a reflection of a nation's foreign policy (127:2). In this regard, offsets, and in general arms transfers, can contribute to the following U.S. national security objectives as stated in the OMB report:

- Deterring aggression by enhancing the preparedness of allies and friends
- Increases the ability of the U.S. to project power
- Support interoperability with the forces of friends and allies
- Enhancing U.S. defense production capacity and efficiency
- Strengthening collective security arrangements (94:23)

Impact of Offsets

The impact of offsets on the U.S. is difficult to determine. One factor making offset analysis difficult is that offset agreements may be completely binding, partially binding, or not binding at all, since some offset agreements are not backed by contractual penalties. Also offsets are usually long term in nature, which reduces the value of offset arrangements (94:35). Offsets agreements were found

to span from 6 to 21 years for implementation, with an average implementation time of 11 years (94:21).

Clearly, one positive impact of making arms sales to allies is the promotion of standardization and interoperability of forces. Offsets, which make arms sales possible, help achieve the benefits of RSI (94:36). In addition, offsets resulting in increased sales can result in longer production runs, lower unit costs, new technology development, and increased capital formation (76:61). Overall, both the OMB report and industry generally conclude that offsets do not negatively impact the U.S. economy (116:6).

Proponents of offsets believe that offsets do not result in the loss of jobs, since the arms sale would likely not have been made without an offset arrangement. Consequently, if a sale were not made there would be no possibility to create any additional employment (116:7). The OMB report addressed the impact of offsets on U.S. domestic employment and found that offsets in general do not negatively affect employment on a total nationwide basis. However, the report does state that offsets are inefficient and result in a shift in the distribution of employment.

Specifically, relative to normal international trade, offsets reduce employment in industries in which the U.S. has a comparative advantage and increase employment in industries in which the U.S. has a comparative disadvantage. This shift in employment reduces real income in the United States. (94:58)

Industrial Base And Technology Transfer. The topics of U.S. defense industrial base concerns and technology transfer issues are addressed in subsequent chapters, however, a discussion of issues related to offsets is presented below.

The impact of offsets on the U.S.'s ability to conduct war must be a major concern. If offsets result in subcontract work to foreign contractors, there is some doubt that the U.S. may have access to the weapon parts in times of crisis. Consequently, it becomes strategically important to know the impact of offsets. However, as previously stated the U.S. doesn't know the extent of foreign reliance, particularly at the subcontract and vendor levels (111:13-14).

In addition to the need for mobilization capability and access to parts during crisis, offsets may result in decreasing the U.S. subcontractor industrial base by giving work to foreign subcontractors (116:8). The OMB report found that the impact of offsets on U.S. subcontractors to be a major issue in defense trade. According to the 1985 data base, 21% of offset arrangements were for subcontractor production. Although studies are not complete, the report does not indicate that offsets are necessarily harmful to U.S. subcontractors (94:37-38).

Offsets, which include technology transfer, may be harmful to the U.S. if not safeguarded from enemies. If

advanced technology is transferred to other countries, the Soviet Union has a greater opportunity to access that technology. Offsets requiring technology transfer may eventually create competitors and decrease U.S. market share (111:16). The OMB report acknowledges that technology transfer, via offsets, has resulted in increased competition to the U.S. defense industry and may result in loss of U.S. market share in the global defense market (94:43). Some in industry believe that the technology transferred through offsets is not a threat to the health of defense industrial base. Companies are well aware of the importance of maintaining a technological lead (116:7-8).

V. DEFENSE INDUSTRIAL BASE CONCERNS

Concerns for the U.S. defense industrial base are often at odds with the promotion of international armaments cooperation and, in general, the globalization of the defense marketplace. As previously discussed, proponents of internationalization often cite economic efficiency of weapons acquisition and increased interoperability of allied forces as reasons for the increased internationalization of the defense business. On the other hand, advocates for a self-sufficient defense capability advocate more nationalistic strategies (2:21). One British Ministry of Defence executive comments that American lawmakers and businesses often use defense industrial base concerns as a disguise for protectionism (56:72). Senator Alan Dixon disagrees with this accusation and defends legislation which supports the defense industrial base as critical to national security. Senator Dixon comments that "Every industrialized nation in the world has an industrial base policy; it is time for the United States to have one too" (35:89).

Groups in government and industry representing each strategy continually influence the laws, policies, and approaches the U.S. will follow in the international marketplace, which results in sometimes unclear direction (2:21). Accordingly, concerns for the preservation of the industrial base and increasing foreign dependency

are explained in an Office of Technology Assessment's report entitled "The Defense Technology Base" as follows:

Foreign Dependence can be helpful and desirable, harmful and avoidable, or just unavoidable. In general, it is a mixture of all these, complicating policy formulation. (117:14)

A study performed by the Mobilization Concepts Development Center (MCDC) of the National Defense University in 1986 surveyed the literature regarding foreign source dependency of goods and materials used in defense production. The MCDC study addresses defense industrial base concerns in three parts. The first part examines the impact of foreign dependency upon the U.S.'s ability to mobilize its industry in case of war. The second part examines the trend toward the U.S.'s dependence on foreign technology needed for advanced weapon production. The third part examines the overall health and competitiveness of U.S. industry in general and its implication on defense production capability (121:1-4).

In this particular MCDC study, a distinction was not made between foreign dependency and vulnerability to U.S. national security (121:1). However, the MCDC does describe three elements of foreign sourcing which range from a foreign source to a vulnerability. The first element is a foreign source which is the broadest category and is defined as any sources located outside of the U.S. and Canada. The second element is foreign dependence which is defined as a foreign source for which there is no "immediately available

alternative' supply in the U.S.. The third element is a vulnerability which is a foreign dependence 'whose lack of reliability and substitutability jeopardizes national security by precluding the production, or significantly reducing the capability, of a critical weapon system' (2:16). While most foreign parts of U.S. weapon systems are in the broadest foreign source element, the few vulnerabilities which do exist are in some of the U.S.'s more important weapons systems (2:16).

MCDC identifies two major causes of foreign dependencies. The first major category includes economic causes, which for the most part are a result from the general economic interdependence of today's U.S. economy and the global economy. Economic causes which lead to foreign dependency include the following: the overall decline in health and international competitiveness of U.S. industry, increases in offshore manufacturing practices, sole source of foreign products and materials, and better cost, quality, and technology of foreign products in some instances (121:8-10).

Another major cause of foreign dependency includes the differences in U.S. defense policy regarding internationalization and industrial base concerns. A policy and priority conflict between the goal of RSI in NATO, protection of the U.S. mobilization base, and competition in contracting results in confusion for DoD acquisition

personnel who must implement these policies (121:10-11). On one hand, DoD policy calls for cooperation with allies and removing barriers for foreign participation in the U.S. market. However, on the other hand, DoD policy requires that U.S. defense industrial base preservation and mobilization concerns must be considered. DoD acknowledges the importance of balancing the goals of these two policies (26:70). At the same time, the push for competition ignores both the cooperative and industrial base policies. Overall, lack of direction within DoD has caused alarm that the foreign dependency problem is not being managed effectively (121:10-12).

The implications of foreign dependency on national security range from no impact on production capability to total cut off of foreign sources. MCDC believes that the true implication of foreign dependency is somewhere in between these two extremes. Accordingly, the MCDC believes that actions should be taken to determine the extent of the foreign dependency problem (121:13-14).

Surge/Mobilization

Both surge and mobilization describe scenarios where U.S. defense production must be expedited in response to a national emergency. However, the requirements for mobilization reflect more severe conditions than those of a surge scenario. U.S. industry's ability to surge defense production capability or mobilize its defense industry in

time of emergency is seriously doubtful. Foreign dependencies, erosion of the supplier and subcontractor level, shrinking defense budgets, poor government/industry relations, and a decline in defense research and technical education are some of the reasons which have damaged U.S. industry's ability to support surge and mobilization needs (2:1). In addition, offsets, as previously discussed, are negatively impacting the supplier subcontract base, which ultimately affects surge and mobilization capability (121:22).

However, the issue of surge and mobilization requirements is not so clear cut. Two implicit assumptions are made when discussing the need to mobilize U.S. industry in time of war, which may not necessarily be correct. The first assumption is that the U.S. needs to rely only on U.S. and Canadian facilities to produce conventional weapons. This assumption of self-sufficiency may not be in the best interest of the U.S., since this may lead to uneconomic purchases of defense equipment which may result in fewer weapons and less money to maintain technological superiority. Also, self-sufficiency may damage political ties between allies (88:38).

The second assumption is that mobilization can not start any earlier than an actual war declaration. However, there are many actions that can and should be done to 'prime the mobilization pump' upon advance warning of potential

hostilities, as one author calls it. These actions are known as a "graduated mobilization response." A graduated mobilization approach may be a flexible and realistic enough tool to aid in deterrence, rather than using mobilization as a last resort after deterrence has failed. A graduated mobilization response includes such actions as accelerating foreign purchases of critical raw materials, identifying and ordering long lead items, and preparing manufacturing lines for conversion from commercial to defense production (88:38-39).

A recent article in the American Defense Preparedness Association's journal emphasizes that reducing manufacturing leadtime must be a major factor in improving warfighting readiness. According to the article, areas which might be examined to reduce leadtime and generally improve the industrial base include the following: acquisition laws, policies and procedures that are written for peacetime and do not allow for leadtime reduction; regulations and paperwork that slow down and increase cost in the manufacturing process; budget instability which prevents long range planning; productivity and technology improvement programs that do not have a high priority; coordinating manufacturing planning with design planning; ensuring at least one domestic source for critical parts; and funding the Manufacturing and Repair Surge and Mobilization program (44:27-30).

Another requirement for effectively preparing for a crisis is ensuring that there is not a shortage of strategic raw materials, such as graphite, titanium, and nickel. If surge or mobilization production is required, the availability of strategic and critical raw material could have a significant impact on U.S. weapon systems, particularly on engines such as the F-100 which use over 5000 pounds of titanium and nickel. Stockpiling is an important tool to keep adequate supplies of strategic and critical materials on hand in case of a national emergency (87:15-19).

Foreign Technology Dependence

There is a growing concern that the U.S.'s dependence on electronics, such as semiconductors, may have a negative impact on the U.S.'s ability to produce technologically superior weapons needed to maintain deterrence. In fact, the future of the U.S. semiconductor technology may be of greater concern than the current dependency on foreign sources (121:25).

U.S. firms, which produce semiconductors for sale, have lost a significant portion of the global and U.S. domestic market due to competition, primarily from the Japanese. Loss of market share will inevitably result in less capital investment and research and development for advanced technology. This will lead to further deterioration of U.S. semiconductor industry. Since semiconductors are crucial to

advanced electronics used in modern weapons, foreign dependency for semiconductors places national security at stake (121:25-32).

Superconducting materials is another area in which the U.S. is in danger of becoming dependent on foreign sources. The Defense Science Board has determined that superconducting material applications have potentially valuable defense implications. However, the U.S. needs to increase its research in order to keep pace with the Japanese (92:57).

A research study on the foreign source dependency of the U.S. Air Force for critical microcircuits used in avionics systems found that an indirect dependency as opposed to a direct dependency was a problem. Indirect dependency can result from offshore facilities used by U.S. owned corporations. This type of indirect dependency is caused by economic factors and the need to minimize manufacturing costs. However, dependency on offshore facilities may have negative consequences for the military supply line in times of a national emergency. Another type of indirect dependency can result from foreign source dependence of components used in microcircuit production. Economics seem to be the cause for use of foreign sources for components, however, the ability of U.S. industry to meet military requirements during a crisis period may be compromised (7:89-91).

Overall, a lack of data on foreign dependencies is a principal problem which must be addressed. Data plays a key role in successfully managing foreign source dependency. According to many defense studies, active management by responsible organizations and people is a must for solving the foreign source dependency problem (121:32).

Health and Competitiveness of the Industrial Base

The defense industry can be depicted as a vast network of prime contractors, subcontractors, and part suppliers which produce a variety of defense systems including aerospace, ship, and armament systems (48:3). The defense industry consists of many of the same industries involved in the manufacturing of civilian goods. In fact, the DoD purchases 95% of its goods from 215 industries (33:V). Consequently, the health and competitiveness of the defense industry is much the same matter as the health and competitiveness of the broader national industrial base (121:37). As explained by a DoD report entitled "Bolstering Defense Industrial Competitiveness", the DoD recognizes that it can not sustain the national industrial base by itself. However, the DoD can have a significant part in strengthening the national industrial base, particularly through its considerable market share of many industries (33:111,v). Prior to discussing what DoD can do to "bolster defense industrial competitiveness," the concerns of a broader national industrial base decline are presented.

Based primarily on a 1985 report entitled 'Global Competition - The New Reality' by the Presidents Commission on Industrial Competitiveness, the MCDC study explains that worldwide competition has increased, predominantly from Japan and the Pacific Rim countries. Simultaneously, the U.S. has become less competitive as evidenced by lower productivity, a decrease in relative standard of living, and negative trade balances. The decline in U.S. industrial competitiveness is caused by four predominant factors, which include technology, capital resources, human resources, and trade environment. Accordingly, attempts to improve industrial competitiveness must also occur in these four areas. Recommendations made by the MCDC to reverse the decline in U.S. industrial competitiveness largely correspond to the deficiencies cited in the following discussion of the four factors (121:39-53).

Technology affects industrial competitiveness in a variety of ways. For example, while the U.S. spends much more in R&D than other countries, the U.S. does not focus R&D expenditures on commercial applications which can strengthen industrial competitiveness. Also, R&D by private firms is not incentivized. This may be a result of inadequate protection of intellectual property. Other technology problems affecting industrial competitiveness include: lack of attention in improving manufacturing processes, an insufficient amount of engineers with high

level education, U.S. regulations that inhibit innovativeness and commercialization, and finally, a lack of common management of R&D on a nationwide basis (121:54-56).

There is less capital available for furthering industrial competitiveness. This is primarily due to a lower amount of nationwide savings and large amounts of capital needed to pay the high U.S. budget deficit. In addition, the high cost of capital and inefficient flow of capital to U.S. firms has not resulted in improving industrial competitiveness (121:56-57).

The quality of human resources needed to compete on a global scale is also of great concern. Human resource concerns include: the need for cooperation between management and labor; the need to adapt the workforce to changing technologies and providing adequate training; and the need to improve the education system (121:57-58).

The final factor in the decline of U.S. industrial competitiveness is the trade environment. International trade, in general, has become important to the future of U.S. industry. However, a national trade policy which promotes industrial competitiveness has not been well coordinated in government. Laws which impact trade, such as export controls, must be re-examined for potentially negative impact on industrial competitiveness. Overall, strengthening U.S. industry's position in the international trade environment must be a national priority (121:59-61).

There is much debate as to whether or not the U.S. is experiencing an industrial competitiveness decline as portrayed in the MCDC survey of industrial base literature. Many argue that competition is a relative term with respect to other competitors and a country's own past performance. They point out that the U.S. has done relatively well in industrial performance. Also, there is debate over the economic causation of the competitiveness problem and measures of economic health. Regardless, there are some areas which experts agree can and should be addressed. For example, most agree that there is a need for a coherent industrial policy which examines and unites the different policies laws and regulations that currently affect the industrial environment (33:5-11). Accordingly, the DoD has examined the way it does business and other factors beyond its direct responsibility in order to develop a set of recommendations that can "bolster defense industrial competitiveness," as outlined in the DoD report (33:39).

Prior to addressing the DoD strategy to strengthen the defense industrial base, there are causes of the defense industrial base problem that are specifically DoD related. Many of the recommendations specifically address the following DoD-related causes: program and budget instability adversely affect long term planning and discourage contractor investment; there is an absence of market incentives and rewards for contractors involved in DoD

purchases; many DoD policies, such as emphasis on price, product performance, and profit levels adversely affect manufacturing excellence; the DoD acquisition management organization forces contractors into a defensive and reactive organization; emphasis on competition based on price de-emphasizes quality and reliability; DoD's reliance on product and process specifications does not always support the best manufacturing process; there is an inadequate use of life cycle costs as an acquisition criteria; there is too little focus on subcontractors and providing for a strong subcontractor base, despite the fact that 50-85% of DoD costs are at this level; there is too much emphasis and too many layers of oversight; and there is too much micromanagement which restricts efficiency and innovativeness (33:32-38).

Although the specific 19 recommendations included in the DoD report are not individually presented in this text, DoD's strategy and corresponding recommendations to strengthen the defense industrial base are centered around the following six areas:

1. Forging the right relations with industry
2. Improving the acquisition system
3. establishing defense industrial strategic plans that support our military strategic plans
4. developing manufacturing capabilities concurrent with the development of weapon systems
5. laying the foundation now for the technical skill base required for tomorrow's defense needs

6. ensuring that industrial base issues important to our defense benefit from the full spectrum of potential policy remedies (33:39)

VI. TECHNOLOGY TRANSFER

Securing Defense Related Technology

Clearly, most people would agree that the U.S. should prevent the transfer of defense related technology to the Soviet Union and its allies since these adversaries could use the technology to threaten U.S. national security. Controlling and securing defense related technology is particularly critical for the U.S. since it depends upon the technological superiority of its weapons to balance the Soviet's quantitative military superiority. However, technology security is difficult to maintain due to the U.S.'s open system of technology development. In addition, the need for armaments cooperation with allies and foreign sales also makes technology security more difficult due to the increased number of countries involved with strategically important technology. Consequently, the U.S. must consider national security when involved with programs or situations requiring international technology transfer (8:35-40).

The Soviet Union's military threat to U.S. national security is heightened by the technology transfer issue. The Soviet Union's policy has been to compete with the U.S. on a military basis. Accordingly, the Soviets have outspent the U.S. in military R&D every year since 1972. In addition, the Soviet Union has pursued advanced military

related technology by controlling and requiring their scientific and technical communities to concentrate on developing military related technology. This military orientation towards developing technology is carried out at the expense of developing advanced consumer products. Also, the Soviets pursue an aggressive program to obtain western technology, either legally or illegally. The Soviet Union's Ministry of Foreign Trade is responsible for legal purchases of western technology with military and civilian applications.

In order to make purchases of western technology, the Soviets have increased their use electronic data bases of unclassified information. The Soviets have also received information through attendance at U.S. and international science conferences and other academic exchange programs. As far as illegal methods of obtaining U.S. technology, the Soviets are well known to participate in illegal sales of equipment and information (8:36-38).

The successful acquisition of western technology by the Soviet Union has allowed them to accomplish the following:

- Save billions of dollars and at least five years in their research and development cycle.
- Tremendously reduce the risk of ineffective research and development and the cost of plant modernization.
- Develop countermeasures to our existing and even anticipated defense systems at a much faster rate than would otherwise be the case. (120:9)

Securing defense related technology is not a clear cut issue, since many military useful technologies also have commercial uses and vice versa. These type of technologies are known as dual-use technologies (24:101). For example, the computer while primarily developed for civilian uses has resulted in control and accuracy improvements in weapons. It is difficult to determine the military implications of many of today's technologies and many appear in the civilian market far before military implications are known. In addition, technologies which may not be advanced to the U.S. may in fact be advanced to the Soviet Union and result in improvements in their defense (8:35).

Export Controls

The U.S. has instituted various legislation to deny its adversaries of sensitive technology which may have national security implications. However, there has been and continues to be a conflict between the need to export goods and maintain a healthy international trade posture and the need to secure vital defense related technology. Consequently, export controls are not only controversial, but often are adjusted based upon the perception of trade and security situations in the international environment (75:46).

The first post World War II legislative act to control exports and deny adversaries of sensitive defense related technology, was the Export Control Act of 1949. This law

was passed as a result of rising tensions with the Soviet Union. The Secretary of Commerce was responsible for its administration. In 1954, as part of the Mutual Security Act, a more specific law was passed in order to control the export of arms and munitions. This law, after amendments, is generally known as the Arms Export Control Act. The Secretary of State was responsible for its administration. The Export Administration Act of 1979, amended in 1981 and 1985, replaced the Export Control Act of 1949. Among the actions taken in this amendment, the act charged the Secretary of Defense to maintain a Military Critical Technologies List for technologies which require an export license and make recommendations to the other secretaries (73:46-47).

As can be seen through the various legislative activity, several executive departments share the responsibility for exercising export controls and controlling military related technology. Business often criticizes that the complex and confusing export control systems hinders U.S. businesses international competitiveness (76:63-64).

Beyond the U.S.'s own efforts to secure technology, the U.S. participates in a multilateral organization known as the Coordinating Committee for Export Controls (COCOM). COCOM was established in 1948 with Japan and all NATO members except Iceland and Spain. COCOM's functions include

the following: defining military products and technologies which require controlling; reviewing requests to ship certain items to embargoed countries; and coordinating member countries export control administration and activities (24:101-102).

Armaments Cooperation Considerations

While controlling technology transfer in order to deny adversaries strategic technology is vital to U.S. national security, there is also a conflict between U.S. technology transfer restrictions and international armaments cooperation. Advocates of armaments cooperation claim that the U.S. has unnecessarily strict rules on technology transfer, which is a barrier to cooperation. One writer comments that the strict controls are based on unsound rationale which tends to support the reluctance of nations to share technology with other nations. Sharing technology is inherent in armaments cooperation (43:28).

The first piece of unsound rationale is the belief that technology has an infinite shelf life. This is not completely accurate since the value of technology decreases with time. Second, export control policies have been made in the past which do not always consider foreign availability when granting technology licenses. Finally, defense equipment by itself in the hands of adversaries is not as useful as having the know how to manufacture the weapon (43:28-29). Overall, the need to balance national

security considerations with promoting armaments cooperation and military export sales, with or without offsets, makes technology transfer a complex and critical issue (120:9).

An example of how a technology transfer issue can complicate cooperative arrangements is the Japanese Fighter Support Experimental (FSX) aircraft project. The FSX is to be Japan's next generation fighter aircraft, which is to be codeveloped and coproduced with the U.S. and based on the F-16 technology. Inherent in the codevelopment and coproduction is the fact that the Japanese will have access to sensitive U.S. design and manufacturing technology. Consequently, one of the main issues in this proposed cooperative arrangement is the fear that transferring U.S. technology to Japan will allow Japan to become a competitor to the U.S. aerospace industry in the global defense market.

In addition, and probably even more threatening to the U.S., is the fear that Japan may also use the advanced aircraft technology to compete in the commercial aircraft market (95:40-43). Clyde Prestowitz, a former counselor for Japanese affairs to the Secretary of Commerce, opposes the FSX arrangement, and cooperative ventures in general, on the grounds that it may help Japan in becoming a strong aerospace competitor faster than they would on their own. One aerospace analyst insists that the current FSX debate is more of a trade issue than a technology transfer issue (68:46).

An examination of the Japan/U.S. collaboration reveals that the FSX program is part of Japan's continuing evolution to increase its aerospace development and manufacturing capability (75:97). This continued development is positive since a strong defense relationship between the U.S. and Japan, particularly with a Japan that possesses high technology defensive weapon systems, is vital to deterring Soviet aggression in the Pacific Rim. Consequently, the FSX codevelopment and coproduction program is a step in the right direction in maintaining U.S./Japan security interests (96:106).

Some opponents of a U.S./Japan collaboration express concern that the technology gained by the Japanese in the FSX program will eventually result in a major aerospace competitor. However, the Japanese aerospace industry's infrastructure is already in place as the Japanese have previously manufactured or have arrangements to manufacture the U.S. derived F-4, F-15, P-3C, SH-3, CH-47 and OH-6D. The current Japanese F-1 fighter aircraft is completely developed and manufactured by Japanese industry (95:43). The Japanese aerospace industry is rapidly developing. One writer describes the Japanese threat to the U.S aerospace industry as follows:

The Japanese threat to the U.S. aerospace industry will vary by sector. Ironically, given that it is the source of greatest public concern, commercial jet transport is a sector where the Japanese are likely to be only coproducers linked to a U.S. or European partner. Much more immediate is the threat to producers of commercial aircraft

components and structures and systems with high electronic content. (75:97)

In addition, the transport aircraft industry already has the economic disadvantages of overcapacity and cyclical demand as barriers to entering the market. Consequently, the fear of Japan should be lessened (75:97-98).

One graduate study entitled "The Effects of United States Government Policy on the Transfer of Military Technology to Australia" found that Australia experiences numerous difficulties with the technology transfer system. The study concluded that the difficulties were not likely to be unique to Australia, rather most allied nations probably experience them also. The difficulties within the technology transfer system relate to the system's complexity, uncertainty, and constant changes (128:130). The following six factors are identified in the study which describe the complex nature of the system:

1. The vast number of technologies earmarked as having potential military application.
2. The sophistication and array of advanced technology stemming from both commercial and military research that are available for military use.
3. The need to balance national security and foreign policy objectives with those concerning international trade which are embedded in policies fragmented between the three principal departments.
4. The vast number of regulatory instruments necessary to control technology transfer and export licensing.

5. The lack of direction of U.S. policy, particularly for U.S. industry and allied nations.

6. The limitless transfer mechanisms that the policy is intended to oversee to prevent the disclosure of strategic technology to proscribed nations. (128:131)

In order to effectively deal with the complexity of the U.S. technology transfer system, the study recommends that education and familiarity with the technology transfer system and export licensing policies and procedures is essential (128:133).

VII. CULTURAL/NEGOTIATION CONSIDERATIONS

The topic of cultural/negotiation considerations was purposefully deferred to this chapter of the text, not because it is less important, but rather because it affects contracting and purchasing done in the Government or industry for defense or commercial products.

Differences in cultures and their impact upon communication and negotiation is a basic part of the international business environment. Language, communication, cultural, and business practice differences are found by many companies to be significant barriers to getting involved in the international arena (86:8). In addition, the ability to understand and deal effectively with people of other cultures affects the success of a negotiation. This is crucial since negotiation is the means by which agreements, purchases, and business is accomplished (15:2).

A recent article in Fortune magazine entitled 'B-Schools Get a Global Vision' explained how many of the top graduate business schools are restructuring their curriculums, course material, and faculties to include more of a global perspective. The article explains that in response to today's globalized business environment, MBA's of the future should be familiar with different cultures, languages, and the negotiation process. The increased

awareness of a globalized business environment is causing, as one business school dean calls it, "the most fundamental change since the school was founded" (77:78-80).

Culture

Culture is a broadly defined concept referring to a group of people's "total way of life." In other words, it is a "integrated system of learned behavior patterns", which influences how a group of people think, speak, and act (69:17-18). However, when two people of different cultures interact a person is likely to experience conflict and disorientation (69:18).

Studying other cultures is an important and necessary step in doing business in a foreign country (25:21). However, one of the things identified as needed when involved with other cultures is understanding and increasing awareness of one's own culture (25:5). The term "cultural baggage" describes the cultural characteristics a person has acquired throughout his or her lifetime and consequently carries wherever that person goes. Increasing awareness of one's "cultural baggage" will allow a person to see how foreigners see them and how to interact with foreigners effectively (69:1-2).

The image of Americans to foreigners is known throughout the world as portrayed by the movies, television programs, tourists, and news media. However, the images of Americans held by foreigners are often based upon

generalizations and stereotypes (69:5). The following is a list of some stereotypes used by foreigners to describe

Americans:

Outgoing, friendly, informal, loud, rude, boastful, immature, hard working, extravagant, wasteful, confident they have all the answers, lacking in class consciousness, disrespectful of authority, racially prejudiced, ignorant of other countries, wealthy, generous, always in a hurry (69:7)

One note upon examination of this list is that the attributes which Americans think may be positive, may not always be seen as positive in another culture.

Consequently, a person should be aware of the stereotypes and try to avoid the negative ones (69:7-8). In addition, a person should try to look at himself with a "cross-cultural perspective" or, in other words, through the eyes of another person's culture (69:32). While Americans should avoid being the "Ugly American," Americans should be proud of who they are and not try to disguise their nationality or imitate others (25:3).

Language

While English is the dominating language throughout the business world, learning the native language can help bring a competitive advantage to companies and open access to markets as opposed to companies that do not know the native language. Multinational companies capitalize upon knowing the native language by hiring nationals. Foreign companies, particularly the western european countries and Japan,

stress the importance of languages and have language programs within their companies (40:67-68).

Learning a language may also be advantageous to the negotiator. Even if negotiations are held in English, it may be advantageous to know a foreign language in order to understand the informal and casual "table talk" which goes on in negotiations. In addition, taking effort to know the language and customs can be a big step in building trust and confidence in negotiations with foreigners (4:46-47).

Even though a person is familiar with a foreign language it is usually advantageous to have an professional interpreter (25:114). An interpreter translates speech from one language to another, as opposed to a translator who transposes written text from one language to another language. There are several levels of interpreters. Interpreters known as "Conference Interpreters" provide exact, instantaneous, simultaneous, or consecutive translations which can be used in international meetings (79:12-7).

Negotiation

Negotiation involves the meeting of parties to exchange ideas in order to change their relationship or reach agreement. Negotiation can be considered an art, which requires sensitivity, timing, and the understanding of human needs. Nevertheless, negotiation is a process which

requires adequate training, preparation, and practice in order to be done successfully (91:236-237).

Negotiations become even more complex and vastly different in the international arena. Accepted ways of doing things in domestic negotiations may not be acceptable in international negotiations. Also, foreign negotiators may not see things the same way as American negotiators. If these differences are not understood, a negotiator may experience frustration (80:8). Understanding the impact of culture in international negotiations can make the difference between success and failure (80:47).

In the international environment there is also a difference between public and private sector contract negotiations. In the public sector, the negotiation is based upon the concept of sovereign equality. Political considerations often are more important in public sector negotiations. Emotional issues are more likely and protocol is very important. Public sector negotiations involve a mixture of both countries' rules and regulations. On the other hand, private sector negotiations are oriented toward the economic marketplace and economic considerations usually prevail (79:18-6,18-7).

Another critical part of negotiations is communication. However, people do not always see things the same way, which can make effective communication difficult and lead toward confrontation (107:59-64). In the international arena,

communication becomes even more difficult because perception is interconnected with a person's culture (69:55-56). Care must be taken to prevent a reliance upon a 'self-reference criterion,' which is a subconscious inclination to anticipate another person's response in one's own cultural perspective. Application of the 'self-reference criterion' during international negotiations can result in many mistakes, such as failing to recognize the reasons for another person's position (80:11).

Listening is another aspect of communication which can cause difficulties in intercultural communication. Effective listening is a difficult task at the best of times and becomes even more challenging during intercultural communication. In addition, non-verbal cues like gestures and eye contact, which are used to reinforce the understanding of a message, may be drastically different in other cultures (69:60). Consequently, the fact that both parties may know English or the same language or even have an interpreter does not make up for the perceptual difficulties in intercultural communication (15:2).

Customs/Etiquette

Knowledge of customs and business etiquette is necessary in preventing incidents which may sour business deals. What is considered to be acceptable or proper etiquette varies from culture to culture. It is important to remember that foreigners will not see you personally, but

rather as a representative of your company, government, or country. Consequently, attention to proper etiquette is a must. In general, respect for others, along with formality and politeness, should guide most of a person's behavior during international involvement (25:156-158). However, specific tips on customs and etiquette should be reviewed prior to dealing in a particular foreign country.

Negotiating Styles

As previously discussed, culture affects negotiations. Consequently, each nation has a different negotiating style (9:V). The following descriptions are a brief glimpse of a few countries' negotiating styles in order to illustrate the impact of cultural differences.

Federal Republic of Germany. The German's tend to be highly prepared for negotiations. They conduct negotiations in a very powerful style that is characterized as deliberate, thorough, and systematic (107:173). The Germans tend to be serious and honest during negotiations and avoid game playing. There is also a great respect for academic credentials, particularly doctorate degrees (15:5).

France. The French are very nationalistic and consider themselves to be expert negotiators, which can make negotiations quite difficult. Conflicts are likely to arise (49:68-69). The French tend to be secretive and less open during negotiations. At times, they can get emotional and theatrical, however, this is usually only temporary. The

French place importance on social interaction. In addition, there is a great deal of importance placed upon the status of the negotiator (4:39-40).

Japan. The Japanese are perhaps more difficult to understand than the Europeans, since the Japanese culture is so different than Western culture (15:7). The Japanese culture teaches that social conflict should be avoided. Consequently, the Japanese, which view negotiation as social conflict, tend to avoid formal negotiation sessions. Bargaining is frowned upon. The Japanese prefer to have extended fact-finding sessions (112:55). The Japanese are characterized as loyal, polite, hard working, and team players. Nightlife and entertainment is an important part of the Japanese business scene as a means of getting to know the person on a personal level (15:7).

VIII. CONCLUSION

The objective of this thesis was to develop an informative and consolidated text on the international dimension of the contracting and purchasing management professions. Consequently, this text examined a variety of complex and interconnected topics relating to procurement in the international marketplace for defense and commercial products.

Based upon examination of the literature, the research indicated that the practice of foreign purchasing in the commercial sector of industry was well established. Prompted by the need to stay competitive in today's global markets, companies have increasingly turned to foreign sources in order to take advantage of better price, quality, and availability of material or products. Several difficulties in doing business internationally were examined, such as nationalism, logistics, currency and exchange rates, and customs. Overall, the literature clearly indicated that companies must, for survival's sake, think globally despite the added complexities of international purchasing.

Once companies decide on their objectives in the global market and assess the purchasing capabilities of their organization, companies must decide to purchase either directly from the foreign source or use an indirect method,

such as an importer. Each of the purchasing methods was found to have its own advantages and disadvantages. The research also revealed that demands for countertrade were prevalent in the commercial sector. Accordingly, companies have developed strategies of integrating purchasing with marketing and sales in order to handle countertrade requests more economically and effectively. In addition, companies have increased the use of alliances with foreigners as a business strategy for a variety of reasons including maintaining market share and sharing the risks of product development.

In regards to defense products, this text examined the involvement of Government and the defense industry in the international marketplace. The literature revealed that as foreign nations progressed towards developing indigenous defense industries, the U.S.'s international involvement shifted from grant aid to FMS to responding to offset demands for technology transfer and coproduction. Foreign governments began to demand a two-way street in defense trade. In addition, Governments were faced with the need to provide efficient and effective use of resources for collective security. Consequently, Governments arranged for armaments cooperation. Industries also increased their own international teaming arrangements in order to provide access to larger markets in today's more competitive global market.

The effect of increased armaments cooperation, international teaming, and offsets, along with their inherent technology transfer raises concern for the health of the U.S. defense industrial base. Concerns for the defense industrial base and technology transfer are often at odds with armaments cooperation and increased international involvement.

Cultural and negotiation considerations become critical and more complex in the international environment. Many top graduate business schools are changing their curricula to reflect a more globalized approach. Knowledge of customs, business etiquette, and familiarity with negotiating styles of various countries were found to be essential tools in the international marketplace.

Overall, the literature seems to indicate that the U.S. Government and defense industry will continue to have a larger degree of international involvement, as will the commercial sector of industry. The complexity and variety of the issues in the international marketplace make it vital that contracting and purchasing management professionals become knowledgeable in this key area.

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[REDACTED]
[REDACTED]

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SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED		1b. RESTRICTIVE MARKINGS	
2a. SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited.	
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE			
4. PERFORMING ORGANIZATION REPORT NUMBER(S) AFIT/GCM/LSY/89S-1		5. MONITORING ORGANIZATION REPORT NUMBER(S)	
6a. NAME OF PERFORMING ORGANIZATION School of Systems and Logistics	6b. OFFICE SYMBOL (if applicable) AFIT/LSY	7a. NAME OF MONITORING ORGANIZATION	
6c. ADDRESS (City, State, and ZIP Code) Air Force Institute of Tehnology Wright-Patterson AFB OH 45433-6583		7b. ADDRESS (City, State, and ZIP Code)	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION	8b. OFFICE SYMBOL (if applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8c. ADDRESS (City, State, and ZIP Code)		10. SOURCE OF FUNDING NUMBERS	
		PROGRAM ELEMENT NO.	PROJECT NO.
		TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) CONTRACTING AND PURCHASING MANAGEMENT IN THE INTERNATIONAL MARKETPLACE			
12. PERSONAL AUTHOR(S) Samuel A. Arroyo, Captain, USAF			
13a. TYPE OF REPORT MS Thesis	13b. TIME COVERED FROM _____ TO _____	14. DATE OF REPORT (Year, Month, Day) 1989 September	15. PAGE COUNT 123
16. SUPPLEMENTARY NOTATION			
17. COSATI CODES		18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP	
15	05		
		NATO, International, Procurement, FMS Armaments Cooperation, Technology Transfer	
19. ABSTRACT (Continue on reverse if necessary and identify by block number)			
<p>Thesis Advisor: Curtis R. Cook, Lt Col, USAF Assistant Professor of Contracting Management</p> <p>Approved for public release: IAW AFR 190-1. <i>Larry W. Emmelhainz</i> LARRY W. EMMELHAINZ, Lt Col, USAF 11 Oct 89 Director of Research and Consultation Air Force Institute of Technology (AU) Wright-Patterson AFB OH 45433-6583</p>			
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS		21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED	
22a. NAME OF RESPONSIBLE INDIVIDUAL Curtis R. Cook, Lt Col, USAF		22b. TELEPHONE (Include Area Code) (513) 255-3355	22c. OFFICE SYMBOL AFIT/LSY

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As contracting and purchasing management professionals enter the 1990's, they find the marketplace for defense related and commercial products to be international. Consequently, the purpose of this research is to provide those professionals with an informative and consolidated text on the international dimension of those professions.

First, this research examines the acquisition of foreign products by the commercial sector of industry. The reasons, problems, benefits, methods, and issues in purchasing internationally are addressed. The research then examines the marketplace for defense related products. While security assistance programs, such as Foreign Military Sales have characterized the U.S.'s international involvement in the past, there is a growing trend toward armaments cooperation with allies. Accordingly, this research focuses on international armaments cooperation. In addition, the issues of offsets, technology transfer, and concerns for the defense industrial base are addressed, since they pervade the literature on international defense programs. Cultural and negotiation considerations, inherent to Governments and companies in the defense or commercial sector, are also examined.

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